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ABSTRACT

This report assesses the relative effectiveness of primarily voluntary and primarily mandatory desegregation plans in a sub-sample of 20 school districts, 9 of which are magnet-voluntary plans and 11 of which are magnet-mandatory plans. The major conclusions of this report are the following: (1) voluntary desegregation plans work; (2) dismantling mandatory plans and replacing them with comprehensive magnet-voluntary plans does not necessarily resegregate a school system; and (3) mandatory desegregation plans are not failures. Two school factors that are consistently important in predicting a magnet school's success are location and curriculum. The report provides the following information: (1) a review of research on white flight and the effectiveness of alternative desegregation plans; (2) the goals of a school desegregation plan; (3) the relative effectiveness of different magnet school programs; (4) the relative effectiveness of alternative desegregation plans (voluntary versus mandatory); (5) national desegregation trends from the 1960s through 1984; and (6) report findings and policy recommendations. Included are appendices with pertinent statistics on student demographics and school racial balance, and a bibliography. (PS)

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THE CARROT OR THE STICK
IN
SCHOOL DESEGREGATION POLICY?

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and

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A report to the National Institute of Education
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EXECUTIVE SUMMARY

If we depend largely on news reports and word-of-mouth accounts, the public consensus appears to be that school desegregation plans are counterproductive. In response to such criticisms, more and more plans have incorporated voluntary elements. The purpose of this report is to assess the relative effectiveness of primarily voluntary and primarily mandatory desegregation plans in a sub-sample of 20 school districts, nine of which are magnet-voluntary plans and 11 of which are magnet-mandatory plans. The major conclusions of this report are three-fold:

1) VOLUNTARY DESEGREGATION PLANS WORK. The plans in this sample, however, are comprehensive, magnet-voluntary plans and most involve some, minimal, mandatory reassignments as a result of contiguous rezoning and selected school closings. These plans ultimately produce more interracial exposure than the primarily mandatory plans and the difference is statistically significant.

2) DISMANTLING MANDATORY PLANS AND REPLACING THEM WITH COMPREHENSIVE MAGNET-VOLUNTARY PLANS DOES NOT NECESSARILY RESEGREGATE A SCHOOL SYSTEM. Indeed, all school systems in our sample which did so reduced racial isolation even further under their magnet-voluntary plan.

3) MANDATORY DESEGREGATION PLANS ARE NOT FAILURES. Although they eventually produce less interracial exposure than magnet-voluntary plans, mandatory plans have more interracial exposure on average, than if nothing at all had been done.

It should be emphasized that the magnet-voluntary plans analyzed in this report are comprehensive. All have the goal of desegregating the entire school district by voluntary means, and all but two have explicit and ambitious desegregation goals. The average number of magnet schools in our sample of magnet-voluntary plans is 27. This distinguishes them from voluntary plans where one or two minority schools have magnet programs placed in them and there is not the overall goal of achieving or maintaining a racially balanced school system.

Findings on Magnet School Effectiveness

There are only two school factors that are consistently important in predicting a magnet school's success when other variables are controlled for:

- o LOCATION. Magnet schools in minority locations have the lowest percentage white and the greatest deviation from racial balance.

- o CURRICULUM. Magnet schools with individualized curriculum have a higher percentage white than other types of curriculum.

There are several school district factors that are important in predicting magnet school success. The important factors are:

- o PERCENTAGE MINORITY IN THE SCHOOL DISTRICT. The higher the percentage minority in the district, the lower the percentage white in a magnet school and the greater the deviation from racial balance.

- EDUCATIONAL LEVEL. The lower the city or county median educational level, the higher the percentage white in a magnet school and the less deviation from racial balance.
- YEAR OF MAJOR DESEGREGATION PLAN. The later the year the plan was implemented, the higher the percentage white in a magnet school and the less deviation from racial balance.
- VOLUNTARY PLANS. Districts with magnet-voluntary plans have less deviation from racial balance in their magnet schools. There is no difference between the two types of plans in terms of the percentage white in magnet schools.

There are some discernible patterns in the location of particular magnet themes.

- Foreign language and multi-cultural/international magnets tend to be in white locations.
- Early childhood and Montessori programs tend to be in minority locations.

Magnet schools enroll on average one-third of the students in districts with voluntary plans and 13 percent of the students in districts with mandatory plans. One-third of the programs are in white locations. Another 21 percent are in integrated locations, presumably to stabilize their racial balance. The largest proportion of magnet programs -- 46 percent -- are in minority locations, but this is still less than we believe is optimal for the most efficient utilization of resources.

Findings on National Desegregation Trends

We assessed preimplementation, implementation year, and 1984 desegregation in a national sample of 119 school districts, the sample from which the 20 district sub-sample analysis is drawn. The major conclusions that can be drawn from these data are:

- SCHOOL DESEGREGATION PLANS ARE NOT COUNTERPRODUCTIVE. Desegregation plans, on average, produce more interracial exposure with the implementation of a plan than they lose in subsequent years as a result of white flight and the declining birth rate.
- SCHOOL DESEGREGATION PLANS DO NOT ENCOMPASS EVERY SCHOOL.
    - Almost no school district has 100 percent of its students in desegregated schools either in the implementation year or 1984, regardless of whether the definition of a desegregated school is plus or minus 15 percentage points or plus or minus 20 percentage points from the district's racial composition. The average is 80 and 65 percent in schools plus or minus 20 percentage points in northern and southern court ordered school districts respectively.

  - o Only half of minority students are in schools above 40 percent white in our court ordered districts.
  - o School districts which desegregated under court order still have a significant percentage - 20 percent in the North and 35 percent in the South -- of their minority students in severely racially isolated schools -- schools greater than 90 percent minority.

- o LARGE SOUTHERN COURT ORDERED SCHOOL DISTRICTS HAVE ACHIEVED LESS DESEGREGATION THAN LARGE NORTHERN COURT ORDERED SCHOOL DISTRICTS. This is true regardless of the measure of desegregation. This is contrary to the findings of descriptive, national studies which include numerous small southern school districts.

- o BIG CITY, PREDOMINANTLY MINORITY, SCHOOL DISTRICTS HAVE, ON AVERAGE, NO LESS SUCCESS WITH VOLUNTARY PLANS AS THEY ARE CURRENTLY IMPLEMENTED THAN WITH MANDATORY PLANS.

Recommendations

We recommend that school districts desegregate with comprehensive magnet-voluntary plans if they have a choice. Our data show that over time a primarily voluntary plan will accomplish more interracial exposure than a mandatory plan. In so doing, it also appears to enhance the reputation of the school system. This is particularly important in high proportion minority school systems.

A magnet-voluntary desegregation plan should have the following characteristics:

1. Racial controls on schools and on choices so that only transfers that promote desegregation are allowed.

2. Magnet school programs placed almost entirely in minority or integrated neighborhoods.

3. A "majority to minority" transfer program in which any student can transfer from any school in which their race is in a majority to any school in which their race is in a minority.

4. A variety of programs with a heavy emphasis on individualized, child centered, programs.

5. Expensive and aggressive publicity and recruitment, including individual phone calls to prospective parents where necessary.

6. Ambitious districtwide desegregation goals. We have no standard which we believe would be applicable to every school district. Clearly, what would be ambitious for Racine, Wisconsin would be impossible for Chicago. But, in each situation, most of the parties involved will agree as to what an ambitious districtwide desegregation goal is.

7. Elimination of attendance zones in small school districts. It is not clear, however, whether this innovation as practiced in Montclair, New Jersey and Cambridge, Massachusetts is transferable to large school districts.

We also recommend that central city school districts negotiate a voluntary city-suburban transfer program of the type implemented in St. Louis, Milwaukee, and Boston. There is virtually no social scientist working in this field who does not agree that metropolitan plans are more stable and provide more interracial exposure than city-only plans.

Chapter Outline

Chapter One reviews the research on white flight and the effectiveness of alternative desegregation plans.

Chapter Two discusses the goal of a school desegregation plan. We argue that it should be interracial exposure, not racial balance.

Chapter Three assesses the relative effectiveness of different magnet school programs in a 20 school district sub-sample from a 119 school district study funded by the National Institute of Education.

Chapter Four compares the relative effectiveness of alternative desegregation plans -- voluntary versus mandatory -- in the same 20 district sample.

Chapter Five assesses national desegregation trends from the 1960's through 1984.

Chapter 6 summarizes our findings and makes policy recommendations.

ACKNOWLEDGEMENTS

This report would not have been possible without the professional, competent, and helpful assistance of school personnel in each of the 119 school districts in this sample. No matter how many times we wrote or called for further data and clarifications, no matter how many questions we asked, we were always treated in a manner which cheered us on and enabled us to complete this research. Indeed, this has been the experience of the senior author of this report for the last 15 years of conducting school desegregation research.

Since Office for Civil Rights data has only been collected in the even numbered years since 1974, all of the data for the odd years has had to be obtained from the school districts and coded by research assistants. The completion of this project to date has depended on the assistance of Denise Flood, Kim Nash, Aurora Martarell, Keith Culbertson, Patrick Ng, Priscilla Lee, Melinda Ho, Diah Hamidjojo, and numerous others in the coding of these data. Legal research was provided by David Stone. Keypunching and quality control were provided by Shannon MacDougall. Word processing and Lotus 1-2-3 analysis were provided by Denise Flood, Suzanne O'Connor, and Jennifer Bump.

We are indebted to Gary Orfield for comments on an earlier draft of this paper. We alone, however, are responsible for errors and omissions.

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CHAPTER ONE

INTRODUCTION AND OVERVIEW OF THE RESEARCH ON THE EFFECTIVENESS OF POLICY ALTERNATIVES IN DESEGREGATING SCHOOL DISTRICTS

More than thirty years after Brown v. Board of Education, confusion reigns among the public, lawyers, judges, and scholars over the impact of school desegregation on children and on the communities in which they live. If we depend largely on news reports and word-of-mouth accounts, the public consensus appears to be that school desegregation does not work and that it creates more violence and interracial hostility during its implementation than it will ever be able to eliminate thereafter.

In response to this criticism, more and more school desegregation plans have incorporated voluntary components. Many of the existing mandatory reassignment plans have added magnet schools as voluntary educational options, and we know of no new desegregation plan implemented since 1980 which has not been primarily voluntary, relying on magnet schools, M to M transfers, and redrawing of contiguous attendance zones. Nevertheless, the literature on the subject is currently almost ten years behind the times (see for example, Hawley and Smylie, 1986) because the research reported here is the first to have both a properly specified dependent variable -- interracial exposure -- and more than a year or two of postimplementation data for magnet school plans. While many academics speak of "mixed" desegregation plans, composed of voluntary and mandatory elements, they typically mean a mandatory plan with some educational options (i.e. the St. Louis and Boston plans). We classify such plans as primarily mandatory because students are mandatorily assigned to a school so as to desegregate it and then some are allowed educational choices. There is another type of "mixed" plan which most academics do not support. This is a plan which allows students to choose to attend a desegregated school and mandatory reassignments are either minimal (i.e., only in the case of school closings) or limited (contiguous rezoning or assignments at the end of several years when the plan fails to desegregate certain schools to a court's satisfaction). These we call primarily voluntary (i.e., Milwaukee or San Diego).

While there are few new desegregation plans being proposed, the research reported here is relevant for the numerous school districts under a mandatory reassignment plan who may wish to modify it. The major purpose of this report is to assess the desegregation effectiveness of primarily voluntary and primarily mandatory desegregation plans in a 20 school district sub-sample from a 119 school district study funded by the National Institute of Education. We also 1) summarize the research on white flight and the effectiveness of alternative desegregation plans, 2) assess the relative effectiveness of different magnet school programs, and 3) assess national desegregation trends from the 1960's through 1984.

What Kinds of Desegregation Plans Reassign the Most Students?

It is important at the outset to distinguish among the various types of school desegregation plans. Some school districts desegregate under board order, while others do so only under court order. Some desegregation plans allow for parental choice, while others do not. Although the type of plan should play a large role in its success, few studies have examined this factor.

Table 1 shows a very simple two-by-two table classifying desegregation plans into four types. The source of the order to desegregate is at the top where it is divided into two cells: board ordered and court or HEW ordered. The degree of parental choice on the left is also divided into two cells: no choice and choice. Many longtime observers of school desegregation have confused these four types of plans. Most people believe court ordered plans are mandatory plans, and board ordered plans are voluntary ones. Some board ordered desegregation plans, however, are mandatory because they require parents to have their children participate as long as they remain in the public school system (for example, the Seattle or Berkeley desegregation plans).

TABLE 1-1

TYPES OF DESEGREGATION PLANS

SOURCE OF ORDER		
PARENTAL CHOICE	Board (Internal)	Court or HEW (External)
No (mandatory reassignment)	1	2
Yes (voluntary reassignment)	3	4

By contrast, some court ordered desegregation plans are voluntary because they allow parents to choose whether their children are to be reassigned to a desegregated school or to remain in their neighborhood school (for example, southern plans from 1954-69 and more recently the magnet districts with voluntary plans discussed in this report). Whether a plan is voluntary or mandatory determines community response; whether it is court ordered or board ordered is unimportant.

Voluntary and Mandatory Desegregation Techniques

There is very little research on whether techniques within the categories, mandatory and voluntary, vary in their desegregation effectiveness. This is probably because it must seem clear to most analysts that the most important distinction is the generic one. Moreover, it is difficult to characterize plans on the basis of techniques used since most school districts use as many as they can within each generic type in order to maximize desegregation and minimize busing distance.

The primary voluntary techniques are open enrollment, majority to minority transfers, and magnet schools. Open enrollment gives students the freedom to transfer to any school they wish to within the school district. It is rarely used anymore because it can be a means by which white students flee schools becoming integrated as a result of racial change in the neighborhood. The more commonly used technique today is a majority to minority (M to M) transfer policy in which any student can transfer from a school in which they are in the majority to one in which they are in the minority. The students who participate in such programs tend to be older, and black. Younger students and Hispanic students are underrepresented and white students rarely, if ever, volunteer. Of course, there is greater participation of all groups if transportation is provided.

The only voluntary technique which has been found to be successful in motivating white students to attend formerly minority schools is the magnet school concept. Magnet schools are schools with a special curriculum or teaching style designed to attract students of different races to an integrated setting. While many school districts with an M to M program do not have magnet schools, it is difficult to find a magnet school plan which does not also have an M-to-M program.

The primary mandatory techniques, by contrast, are pairing and clustering, rezoning, and magnet schools. In pairing, two schools, one minority and one white, are combined either by sending half the students in one school to the other for all grades (option 1) or by sending all the children to one school for certain grades and then to the other school for the rest of the grades (option 2). The latter is by far the most common and is typically what is meant by the term "pairing." Clustering is the same technique for more than two schools. Most school districts which use pairing also use clustering. An important policy issue which should be researched is whether there is differing white flight as a function of the two types of pairing/clustering options. If option 2 is used, which grades should go to the minority school and which to the white school? Will option 2, because it involves more white reassignments, produce more white flight than option 1?

Rezoning is another mandatory technique. It implies that attendance zones are redrawn so that nearby schools will become more integrated. However, rezoning can also include satellite zoning whereby small pockets of students at distant locations are "rezoned" to a school to increase integration (also commonly called "forced busing"). In addition, pairing and clustering also involve rezoning. To further confuse matters, when a school is converted into a magnet as part of a voluntary plan, the students in that school are sometimes rezoned to schools where their attendance will produce more integration (see Marion County School Administration, 1984). Magnet schools can be part of a mandatory plan, as in Boston, and as such they are not voluntary desegregation techniques. They are educational options whose purpose is to reduce white flight and hostility.

The difficulty of analyzing the techniques used in a desegregation plan and comparing their desegregation effectiveness is exemplified by Morgan and

England (1981; 1982), a case study analysis of 52 school districts. They discovered that virtually all school districts use at least two techniques, and most use three or more. They did not analyze the issues discussed above regarding type of pairing/clustering (option 1 v. option 2) and types of rezoning (nearby v. satellite) to tap three plan dimensions which might be important to parents and thus affect racial isolation: (1) age of assignment to a minority school, (2) number of times a student is reassigned, and (3) busing distance.

Instead, they list 16 techniques which appear to overlap considerably. Thirteen of the 16 techniques have N's of two or less. They collapsed these into three categories: (1) pairing/clustering, (2) rezoning, and (3) pairing/clustering/rezoning compared to all other techniques. While all three are used at the elementary level, rezoning is the overwhelming choice at the secondary level. They find that all three produce a greater implementation year reduction in racial imbalance than "all other techniques," and pairing/clustering/rezoning produce more than either one by itself. However, they never compare voluntary techniques as a group to mandatory techniques. Hence, the analysis is not very useful for the current policy debate over the relative effectiveness of mandatory and voluntary plans.

All of these studies, however, are limited by their sole reliance on racial balance, the traditional measure of the effectiveness of desegregation plans. As we shall argue in more detail in Chapter Two, racial balance measures are an inadequate measure of the effectiveness of desegregation plans in reducing racial isolation because they are relatively insensitive to the white flight produced by desegregation plans and thus do not reflect how much actual exposure black children have to white children.

The Impact of School Desegregation on White Flight

White flight from the public schools may take two forms: the transfer of students to private schools within the district and the movement of families out of the school district. Intuitively, the former seems less damaging to a community than the latter, in part because the possibility of returning to the public schools is much greater, and in part because these individuals will remain a part of their original community.

Most of the research, unfortunately, does not differentiate between the two forms of white flight, since the dependent variable is usually aggregate change in white public school enrollment. There are, however, nine case studies that make this distinction in eight different school districts because they used survey sampling techniques or analyzed the local housing market or private school enrollments. These studies indicate less residential relocation than private school enrollment in response to school desegregation. Four of the studies are of countywide plans, where the cost of relocation is greater than in city school districts (Lord, 1975; Cunningham and Husk, 1979; McConahay and Hawley, 1977; Taeuber and Wilson, 1978).

All of the studies, including the five of city school districts, Boston, Los Angeles, Cleveland, and Dallas, (Ross, 1981; Estabrook, 1980; Orfield, 1978; Cataldo, 1982; Hula, 1984), support the theory that whatever the motivating factor, whites calculate the costs and benefits of their actions and tend to choose the course of action with the lowest costs. This is particularly illuminated by the surveys in Louisville (McConahay and Hawley, 1977; Cunningham and Husk, 1979) and in Boston (Estabrook, 1980; Ross, 1981), which found that families who moved to the suburbs were more likely to be renters, young people, and those without children (i.e., those for whom moving was relatively less costly), than those who transferred to parochial or private schools. The families that moved were also more in favor of desegregation, a tendency that suggests that longitudinal nonpanel surveys may underestimate positive attitudinal change. The only study to find more residential relocation than private school enrollment is Cataldo's aggregate analysis of Cleveland and the surrounding metropolitan area.[1]

Over the long term, "non-entrance" may become more of a problem than flight. Frey's (1977) analysis of metropolitan movement from 1965-1970 found that most factors, both racial and non-racial, affect white flight less through the decision to move than through the choice of destination. Moreover, a survey of recent homebuyers in Charlotte, North Carolina in 1977 found that parents of school age children rated educational quality and racial composition of the school attendance zone as significantly more important than commuting distance in influencing their locational choice (Jud, 1982). Similarly, Wegmann's (1980) review of the literature concluded that perceived school quality had no effect on exit, but did influence the number of new families with children entering a neighborhood.

The reason non-entrance is likely to have a greater effect on enrollment decline than exit is that the former obviously has lower relocation costs than the latter. Furthermore, the information costs to parents who do not have their children in the public schools is higher than those who do, giving the former still another reason not to place their children in the public school system. Surveys of Louisville-Jefferson County (McConahay and Hawley, 1977; Husk, 1980), Nashville-Davidson (Pride, 1980), and Boston (Rossell and Ross,

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[1] It is possible that Cleveland has a higher proportion of renters and more suburban housing than other school districts analyzed. It is also possible that Cataldo's finding is an artifact of his misidentification of the beginning of white flight. In his analysis, he ignored several years of predesegregation white flight in response to court rulings.

1979), confirm that the long-term loss rate is greater for those with preschool children than for those whose children have already enrolled in the public school system.

Mandatory v. Voluntary Plans

In 1982, seventy-seven percent of the white population opposed the busing of school children for the purpose of "racial balance," "school desegregation," or "school integration," (Gallup Poll, 1982). By 1986, that proportion had declined to 57 percent according to a Harris Poll (Snider, 1987). While some whites may oppose desegregation because they are prejudiced, by itself this explains too little, particularly since 91 percent of whites approve of the principle of integration and only 16 percent of whites would object to sending their child to a school where half of the children are black (National Opinion Research Center, 1985). Moreover, surveys indicate individual racism is only weakly or not at all correlated with parental decisions to leave a desegregated school system (McConahay and Hawley, 1977; Giles, Gatlin, and Cataldo, 1976).

In the eyes of many parents, the ratio of costs to benefits changes when students are reassigned in order to desegregate schools. The increased costs are both economic and psychological, and it is perceived costs rather than objectively measured costs that influence behavior. Some of the more important perceived costs are a feeling that the quality of education will decline, that their child's safety will be endangered and that they will lose influence over their child's education when the child is sent on a long bus ride to a distant school.

These three parental attitudes -- opposition to mandatory reassignment to minority schools, approval of the principle of desegregated schools, and concern for the quality of education in desegregated schools -- have important implications for the type of plan which will produce the greatest interracial exposure. They suggest that mandatory reassignment plans will produce middle class white and minority "flight," that voluntary desegregation plans may be successful in motivating whites to transfer to minority schools only if the perception of the quality of education in minority schools is changed, as for example occurs when a school becomes a magnet, and that minority parents may transfer their children to white schools because they perceive the quality of education to be better there. The history of voluntary "M to M" programs suggests the latter two suppositions are probably correct -- as much as 25 percent of minority children can be expected to participate in such programs, but almost no whites will.

When open enrollment plans fail to produce any white transfers to minority schools, the courts have often stepped in and ordered mandatory reassignment of whites. The term "mandatory desegregation," while more precise than the popular term "forced busing" (no one is ever forced to ride a bus), is itself something of a misnomer. Mandatory desegregation plans are not "mandatory" -- parents can choose to take their children out of the public schools. Those with the highest income and educational level are most likely to leave the school system (Giles, Gatlin, and Cataldo, 1976; Lord, 1975; Pride and Woodard, 1978, 1984; Pride, 1980; Estabrook, 1980; Ross, 1981; Rossell, 1986b). Another important factor is the busing distance. In Los Angeles, under the court ordered mandatory desegregation plan, every additional 10 minutes in busing time produced an additional 7 percent white enrollment loss at that school in the implementation year (Rossell, 1986b).

Typically, the most important factor influencing desegregation related white enrollment decline, in part because it is perceived to be related to educational quality and is usually related to busing distance, is the percentage minority in the school district and the receiving school. (Coleman, Kelly, and Moore 1975a, 1975b, Farley, 1975; Farley, Wurdock, and Richards, 1980; Pride and Woodard, 1978; Pride, 1980; Rossell and Ross, 1979; Ross, Gratton, and Clarke, 1982; Giles, Gatlin, and Cataldo, 1976; Giles, Cataldo, and Gatlin, 1975; Rossell, 1978a; Clotfelter, 1981; Rossell, 1986b).

Rossell (1986b) found in an analysis of Los Angeles, Baton Rouge, and Boston that the implementation year white loss rates at schools varied as a function of the percentage minority in the receiving school. The average loss rate for the three cities was 55 percent for schools above 90 percent minority, 47 percent for schools between 80 and 90 percent minority, 43 percent for schools between 50 and 79 percent minority, and 21 percent for schools less than 35 percent minority.

These findings are similar to those found in the few other studies which have looked at loss rates by school racial composition. Pride and Woodard found the 1971 implementation year loss rate in the countywide Nashville schools 51-100 percent black predesegregation to be 43 percent when the median income of the paired white school attendance zone was above $12,000. In Savannah, the loss rate at schools 51-100 percent black was 42 percent in 1971, the year of the major plan (Board of Education, Savannah-Chatham County, 1976: Exhibit 1).

These losses, when white students are reassigned, are not limited to the implementation year. Statistical analyses of white enrollment loss in Boston for every year beginning with the Phase I plan in 1974 through 1978 (Rossell and Ross, 1979: vii) indicate that every time and for whatever reason you reassign white students in a desegregation plan, you lose some. The coefficients for elementary white reassignments are -.313 the first year of the limited plan, -.321 the next year when the extensive plan was implemented, -.550 the following year when reassignments were made to adjust for white flight in the previous years, -.356 the next year for the same reason, and -.293 in the fifth year for the same reason. The coefficients for high school and middle school are similar in most years. These coefficients mean that for every 100 white students reassigned to adjust for white loss in previous years, 30 to 55 will flee.

Even if school districts do not reassign white students in post-implementation years, virtually all of the research shows that the net effect of a mandatory desegregation plan in central city school districts above 30-35 percent minority is negative -- that is, the school districts do not make up their implementation period white flight (Rossell, 1978a: 31; Smylie, 1983; Armor, 1980; Coleman, 1977; Ross, Gratton, and Clarke, 1982; Farley, Wurdock, and Richards, 1980). Smylie (1983) and Ross, Gratton, and Clarke, (1982) even found a negative long-term desegregation effect on white enrollment in countywide school districts less than 35 percent minority, thought by many experts to be most resistant to such effects because of the lack of available suburbs. Thus, when the Abt Associates study (Royster et al., 1979; Rossell, 1979) concluded that magnet-component (i.e., magnet-mandatory) plans were more successful than magnet voluntary plans in reducing racial isolation, there was always the possibility that this was only a short-term advantage and that the greater white flight from mandatory plans would eventually redound to the advantage of the voluntary plans. That is, the districts with voluntary plans might ultimately produce more interracial exposure although they had not done so by the end of the first year of their plans.

CHAPTER TWO

WHAT SHOULD BE THE GOAL OF A DESEGREGATION PLAN?

The primary goal of a school desegregation plan is to eliminate the effects of past discrimination. Because there are an infinite number of such effects, however, the primary goal is more precisely stated as the elimination of the harmful effects of past discrimination. These harmful effects inhere in the stigma of de jure segregation as well as the unequal distribution of resources likely to accompany such segregation. Once these harmful effects have been eliminated, there still remain three additional harmful effects that social scientists have identified: 1) the achievement gap between the races, 2) unequal status among the races and conflict, and 3) a lack of minority self-esteem and motivation.

Social scientists believe that these harmful effects can be eliminated by interracial exposure. In the literature there have been two ways of measuring the extent of interracial contact. The first way is to measure it as racial balance. The measure of racial imbalance most commonly used by social scientists is the index of dissimilarity, also called the Taeuber Index. The formula is

$$D = 1/2 \Sigma \left| \frac{W_i}{W} - \frac{B_i}{B} \right|$$

where W is the number of whites, or any other ethnic or racial group, and B is the number of blacks or any other ethnic or racial group. The index of dissimilarity represents the proportion (or percentage if multiplied by 100) of black students who would have to be reassigned to white schools, if no whites are reassigned, in order to have the same proportion in each school as in the whole school district. The index ranges from 0 (perfect racial balance -- that is, no black students need to be reassigned) to 100 (perfect racial imbalance -- that is, 100 percent of the black students need to be reassigned, if no whites are reassigned, in order to have perfect racial balance).[1]

Another way of measuring the contact between the races is as interracial exposure -- specifically, the proportion white in the average minority child's school.[2] The measure is calculated as follows:

$$Smw = \frac{\sum_{k} NkmPkw}{\sum_{k} Nkm}$$

where k stands for each individual school and thus Nkm is the number (N) of minorities (m) in a particular school (k) and Pkw is the proportion (P) white (w) in the same school (k). Hence, the number of minorities in each school is multiplied times the proportion white in the same school. This is summed for all schools and divided by the number of minorities in the school system to produce a weighted average -- the proportion white in the average minority child's school.[3] Since the proportion white in the average minority child's school increases with racial balance reassignments, but goes down as the white enrollment decreases, it yields the interracial exposure or net benefit of desegregation reassignments. If the instrumental goal of school desegregation is to bring whites and minorities into contact with each other, then the best measure of that is interracial exposure rather than racial balance. Racial balance is an inadequate goal because it ignores how many whites are coming into contact with minorities. This is as true of the precise racial balance measures, such as the index of dissimilarity, as it is of the more imprecise racial balance standards used by the courts, such as the requirement that all schools be within plus or minus 15 or 20 percentage ppints of the district's racial proportions.

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[1] The measure originates with Karl Taeuber and Alma Taeuber, Negroes in Cities (Chicago: Aldine, 1965). It has been used in numerous studies of school and residential racial imbalance since then. Some examples are Farley, 1981; Farley, Wurdock, and Richards, 1980; Smylie, 1983; Van Valey, Roof, and Wilcox, 1977.

[2] This measure has been used in several more recent studies of school desegregation to estimate the outcome of a plan. Some examples are Farley, 1981; Orfield, 1982; Orfield and Monfort 1986; Ross, 1983; Rossell, 1978; Rossell, 1979; Rossell, 1986a.

[3] This can be used to measure the exposure of any two groups to each other by substituting them for blacks and whites in the equation.

The index of dissimilarity, or any other measure of racial balance, is thus less comprehensive than the index of interracial exposure because interracial exposure includes racial balance, but racial balance does not include interracial exposure. Racial balance can be achieved with very little interracial exposure, but interracial exposure cannot be achieved without significant racial balance. If whites and minorities are evenly distributed among schools, there will be more interracial exposure, that is, a higher percentage white in the average minority child's school, than if each race goes to separate schools. Interracial exposure is also, however, a function of the proportions of whites and minorities in the school system -- the level of interracial exposure for the average minority child can be no higher than the proportion white in the school system.[4]

This becomes clearer if we consider a hypothetical segregated school system with six schools and the racial composition shown below.

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[4] It is possible, however, to have a higher percentage white in the average Hispanic or Asian or black child's school than exists in the school district.

	Minorities	Whites
	100	0
	100	0
	100	0
	0	100
	0	100
	0	100
Sum	300	300
% of Total	50.0	50.0

Virtually all supporters of school desegregation would prefer a plan which produced outcome A (shown below) with considerable racial balance and 245 white students remaining to a plan which produced outcome B with perfect racial balance and 6 white students remaining.

	OUTCOME A		OUTCOME B	
	Minorities	Whites	Minorities	Whites
	50	20	50	1
	50	45	50	1
	50	40	50	1
	50	50	50	1
	50	45	50	1
	50	45	50	1
Sum	300	245	300	6
% of Total	55.0	45.0	98.1	1.9

Although outcome B has only one white in each school, it has a racial imbalance score of 0, that is perfect racial balance[5] and all schools within plus or minus 20 percentage points of the school district's proportions (98 percent minority and 2 percent white). If we multiply the number of minorities times the proportion white in each school, however, we find only 2 percent white in the average minority child's school. Outcome B thus has perfect racial balance, but very little interracial exposure.

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[5] This score is derived by dividing the number of minorities in each school by the school district total of minorities (300), dividing the number of whites in the same school by the school district total of whites (6), subtracting the two amounts for a given school from each other (ignoring minus signs), summing this calculation across all the schools and dividing by two. Thus, it is a standardized measure whose criterion changes as the school district's racial proportions change.

Outcome A, by contrast, has an index of dissimilarity of 8.8 -- that is, it is more racially imbalanced than outcome B. It also has one school (17 percent of the total number of schools) racially imbalanced by the plus or minus 15 or 20 percentage point criterion whereas outcome B had none racially imbalanced by that standard. If we multiply the number of minorities times the proportion white in each school, sum across schools, and divide by the number of minorities in the district (300), we find 44.2 percent white in the average minority child's school. Thus, if we have racial balance as our goal, we would be forced to choose the intuitively least desirable plan, that in which there was only one white in each school. If we have interracial exposure as our goal, however, we would choose the intuitively most desirable plan, that in which there was 44.2 percent white in the average minority child's school.[6]

The inadequacy of racial balance measures thus stem from the fact that they hold changing demographics constant and hence cannot distinguish between 1) a desegregation plan in which 99 percent of the whites have left but the remaining one percent are evenly distributed (producing an index of 0 and all schools within plus or minus 20 percentage points of the district's racial proportions), and 2) one in which none of the whites have left and each school is 50 percent white (producing an index of 0 and all schools within plus or minus 20 percentage points of the district's racial proportions). The former situation has the same racial balance as the latter, but much less interracial exposure. Since virtually no one trying to achieve school desegregation would prefer the former to the latter, school desegregation ought to be measured as interracial exposure rather than simply the even distribution of groups, or the relatively even distribution of groups as required by such standards as plus or minus 20 percentage points.

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[6] This example illustrates two basic principles of public policy analysis. Considering only the costs of a public policy (in this case, white enrollment decline) is shortsighted since even the most desirable of the above plans produced some costs and one would be forced to do nothing. By the same token, considering only the benefits of a public policy (in this case, racial balance) would be almost as shortsighted since one would have to choose the intuitively least desirable plan, that in which there was very little contact between the races.

The Effect of Interracial Exposure on Minority Children

As indicated above, social scientists' believe that the harmful effects of de jure segregation are eliminated by interracial exposure not racial balance. This belief is supported by the social science research which shows the educational and social benefits of desegregation to be derived from the percentage white in the average minority child's school rather than the uniform distribution of the races. The most comprehensive and up to date research review ever conducted on school desegregation and educational achievement, using a statistical technique called meta-analysis to synthesize the research findings, indicates that, although the relationship is not perfectly linear, the greater the percentage white in the average minority child's school, the greater the achievement gains by black children (Mahard and Crain, 1983). Although there is disagreement over the size of this effect, I know of no other comprehensive review, nor any research, which has found another variable besides percentage white as the "cause" of the positive effects of school desegregation.[7]

The research also shows a similar influence of percentage white on life chances. For example, a recent review conducted by Braddock, Crain, and McPartland (1984) cite ten major studies which assess the social outcomes for minority adults of having had a desegregated education. All but two of these studies had as their causal variable the percentage white in the minority child's school, rather than racial balance. The higher the percentage white in the average minority child's school, the greater the social benefits. They found that black students from majority white high schools were more likely to enroll at majority white four year colleges, to have white social contacts, to have white friends, to live in integrated neighborhoods, and to have positive relationships with white co-workers. Crain and Strauss (1985) go even further. In their study of the Hartford, one-way city-suburban busing program, which found higher educational achievement and career aspirations among these students, they argue this is a function, not just of the percentage white in the school, but of the "change of scene." In other words, it is beneficial to minority children's life chances to get them out of minority neighborhoods and into white neighborhoods.

Two studies of the effect of school desegregation on residential integration cited by Braddock, Crain, and McPartland (1984) had change in school district racial balance as their independent variable and change in residential racial balance as their dependent variable. The school district with the greatest reduction in residential racial imbalance was the school district with no mandatory reassignment of white students -- Riverside (Pearce, 1980). Other studies have suggested that whatever residential integration occurs with school desegregation comes from minority parents moving into the neighborhood of their child's new school rather than whites following their children into minority neighborhoods (Greenwood, 1972; Foushee and Hamilton, 1977; Kentucky Commission on Human Rights, 1975, 1980a, 1980b).

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[7] Of course, this does not mean that other factors, such as cooperative learning, cannot produce positive effects in a desegregated setting _if_ they were implemented. Since they rarely are, and it is difficult to obtain information on such interventions in any case, the school desegregation evaluations do not control for it.

All of these studies suggest that producing the greatest interracial exposure for minority children, ultimately produces the greatest improvement in their life chances. This is true even if only minorities do the transferring, as in the city-suburban transfer programs. Thus, the most important factor in assessing school desegregation plans is the interracial exposure they produce, not simply racial balance.

CHAPTER THREE

THE SCHOOL DISTRICTS AND THEIR MAGNET PROGRAMS

This report compares the interracial exposure produced by voluntary and mandatory desegregation plans in a sample of 20 school districts, 18 of which were originally studied by Abt Associates (Royster et al., 1979; Rossell, 1979). These school districts are a sub-sample of a 119 school district sample still being coded and analyzed. The intent of this sub-sample analysis is to update the earlier Abt Associates study. That study, which is still the finest comparative analysis of magnet schools as desegregation tools, concluded that magnet-component (i.e., mandatory) plans were more successful desegregation tools than magnet-only (i.e., voluntary) plans. Their sample, however, had only one year of post-implementation data and therefore could not test the proposition that over the long-term, districts with voluntary plans will ultimately produce more interracial exposure because they produce less white flight than mandatory plans (see Rossell, 1979: 317).

Classifying Plans into Magnet-Voluntary and Magnet-Mandatory

There are essentially two types of desegregation plans using magnet schools: magnet-voluntary and magnet-mandatory (see Rossell, 1979). A magnet-voluntary plan is one in which desegregation is primarily accomplished through voluntary transfers. Typically, such a plan is characterized by voluntary white transfers to magnet schools placed in minority neighborhoods and voluntary minority transfers to white schools, either because they are magnet schools or under a majority-to-minority transfer program.[1] Many of them also include redrawing of contiguous attendance zones so as to maximize desegregation. A magnet-mandatory plan is one in which desegregation is primarily accomplished through mandatory assignment of students to other-race schools. In such plans, the magnet schools are educational options whose purpose is to reduce conflict and increase parental satisfaction. While participation in desegregation is not voluntary (as in the magnet-voluntary plans), participation in the magnet school portion of it is.

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[1] In a majority-to-minority transfer program a student can transfer from any school in which his or her race is a majority to any school in which his or her race is in a minority. While such programs are open to students of any race, typically only minority students will participate.

In the magnet-mandatory situation, the magnet schools are usually quite successful in achieving racial balance because the alternative is mandatory assignment to a less desirable desegregated school not of one's choice. Boston, for example, initially had long waiting lists for its magnet schools despite considerable white flight from the non-magnet schools. In the magnet-voluntary situation, on the other hand, some schools will simply fail to attract students because the alternative is more desirable -- to continue to attend one's neighborhood school.

Classifying school districts into these two categories is difficult, however. Table 3-1 outlines the current desegregation plans in the 20 district sample, the year of desegregation implementation, the schools and grades included, and the racial composition goals of the plan. Fifty-five percent of the school districts in the voluntary plan category were ordered to desegregate by a court after a finding of intentional segregation. None of the districts with voluntary plans analyzed here has an explicit mandatory back-up although presumably the court-ordered voluntary plans have implicit mandatory backups.[2]

It should be emphasized that the magnet-voluntary plans analyzed in this report are comprehensive. All have as their goal to desegregate the entire

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[2] Buffalo, for example, was ordered to reassign some students mandatorily in 1981 after five years of successful voluntary desegregation.

TABLE 3-1

DESCRIPTION OF CURRENT DESEGREGATION PLANS FOR TWENTY DISTRICTS

			DISTRICT DESEGREGATION REQUIREMENTS	
DISTRICT	SOURCE OF PLAN	YEAR OF IMPLEMENTATION	SCHOOLS AND/OR GRADES INCLUDED	RACIAL COMPOSITION GOALS
VOLUNTARY				
BUFFALO	Court order	1976	All schools	30-65% minority
CINCINNATI	School Board	1970	All schools	No numerical goals
HOUSTON	Court order	1975	All schools	No school (non-magnet) more than 90% white or 90% black and Hispanic
MILWAUKEE	Court order	1976	All schools	25-45% black in each school; 25-60% black after 1979.
MONTCLAIR	Formal pressure from State Board of Education	1977	Elementary & middle schools	25-57% minority in each school.
PORTLAND	School Board	1970	All schools	No more than 25% minority (middle & high schools) No more than 50% minority (elementary schools)
SAN BERNARDINO	Court order	1978	Elem. and jr. high schools	No numerical goals.
SAN DIEGO	Court order	1977	Schools over 50% minority	To reduce minority population in cited schools.
TACOMA	School Board	1968	All schools	No school shall exceed 40% minority.

TABLE 3-1 (cont.)

DESCRIPTION OF CURRENT DESEGREGATION PLANS FOR TWENTY DISTRICTS

			DISTRICT DESEGREGATION REQUIREMENTS	
DISTRICT	SOURCE OF PLAN	YEAR OF IMPLEMENTATION	SCHOOLS AND/OR GRADES INCLUDED	RACIAL COMPOSITION GOALS
MANDATORY				
BOSTON	Court order	1974	All schools (except those in E. Boston 1975)	Each school in the eight community sub-districts should reflect the overall racial composition of that subdistrict plus or minus 25% (1975).
DALLAS	Court order	1971	Grades 4-8 (mandatory); high schools (Voluntary)	25-75% minority (grades 4-8)
DAYTON	Court order	1976	All schools	All schools must reflect district ratio +-15 pts.
DES MOINES	HEW Administrative action	1977	Cited schools	No more than 50% minority in any school.
LOUISVILLE	Court order	1975	All schools	No more than 12-40% minority (elementary) or 12.5-35% minority (secondary).
MONTGOMERY COUNTY	School Board	1976	All schools	No more than 50% minority in any school.
RACINE	School Board	1975	All schools	No school will have a minority population above the district average.
ST. PAUL	Formal pressure from state Board of Education	1973	All schools	No more than 30-40% minority in any school.
SPRINGFIELD	Court order	1974	Elementary schools	No more than 50% minority in any school
STOCKTON	Court order	1975	All schools	+- 15% district average in each school.
TULSA	Court order	1971	Dejure segregated schools.	Court determined for each school. (1985 dismantled pairings)

school district by voluntary means, and all but two (San Bernardino and Cincinnati) have explicit and ambitious desegregation goals. The average number of magnet schools in these districts is 27 comprising 1/3 of the schools in a district. This distinguishes them from districts with voluntary plans where one or two minority schools have magnet programs placed in them and there is not the overall goal of achieving or maintaining a racially balanced school system.

As Table 3-2 indicates, none of the voluntary desegregation plans in this sample are entirely voluntary -- all use some additional, minimal, mandatory techniques such as selected school closings and contiguous rezoning, particularly at the secondary level. Moreover, as indicated above, in 1981 Buffalo was ordered to mandatorily reassign 30 percent of its elementary students (15 percent of all students) after five years of successful voluntary desegregation. This phase only increased interracial exposure by a small amount due to the simultaneous court ordered drastic curtailing of the successful voluntary M to M transfer program. Despite these mandatory assignments, we still classify the Buffalo plan as voluntary because most of the desegregation over this time period was accomplished by voluntary means.[3]

On the other hand, none of the mandatory desegregation plans has desegregated every school in their district. Some have used magnet schools to desegregate schools which have become resegregated through white flight, deliberately avoiding additional mandatory reassignments. Others, such as Boston, placed magnet programs in schools which could not be desegregated by

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[3] Moreover, the trend in interracial exposure in Buffalo during the voluntary period was toward greater interracial exposure than that accomplished by the mandatory plan. If we were to subtract out the effect of the mandatory reassignments, we would have more interracial exposure not less.

TABLE 3-2

DESCRIPTION OF MAGNET SCHOOLS AND OTHER DESEGREGATION TECHNIQUES IN TWENTY DISTRICTS

DISTRICT	ROLE OF MAGNETS IN PLAN	RACIAL COMPOSITION GOALS OF MAGNETS *	ADDITIONAL TECHNIQUES USED
VOLUNTARY			
BUFFALO	Provide voluntary option for desegregation.	50% minority, 50% majority	Majority to minority (M to M) transfer; redrawing attendance zones; grade reorganization (elim. of middle schools); pairing of 20 zone schools (1981).
CINCINNATI	To desegregate the district as a whole.	50% majority; 50% minority	M to M transfer; school closings and rezoning.
HOUSTON	To desegregate the district as a whole.	Ethic comp. of total district	M to M transfer; redrawing of attendance zones.
MILWAUKEE	To desegregate the district as a whole.	Same as district's goals.	M to M transfer; school closings and rezoning.
MONTCLAIR	To desegregate grades K-5.	Same as district's goals.	Closing of selected schools; elimination of all attendance zones.
PORTLAND	To desegregate a particular geographic area.	Same as district's goals.	M to M transfer; grade level reorganization; consolidation of certain schools.
SAN BERNARDINO	To desegregate the district as a whole.	Same as district's goals.	School closings and rezoning; M to M transfer.
SAN DIEGO	To desegregate certain schools.	Same as district's goals.	M to M transfer.
TACOMA	To desegregate certain schools.	Same as district's goals.	Closing of selected schools; district-wide optional enrollment.

TABLE 3-2 (cont'd)

DISTRICT	ROLE OF MAGNETS IN PLAN	RACIAL COMPOSITION GOALS OF MAGNETS *	ADDITIONAL TECHNIQUES USED
MANDATORY			
BOSTON	Provide vol. option for deseg. and educ. options.	Racial composition of the total district.	Redrawing of dist. boundaries reassignment by geocodes.
DALLAS	To achieve racial balance in high schools.	Capacity of school times ratio of each group in district +- 10%.	Redrawing attendance zones; M to M transfer; grade reorganization; pairing and clustering of schools.
DAYTON	Provide another option for desegration.	Same as district's goals.	Redrawing attendance zones; pairing and clustering; grade reorganization.
DES MOINES	To desegregate a particular geographic area.	Same as district's goals.	M to M transfer; redrawing attendance zones; pairing and clustering; closing of selected schools.
LOUISVILLE	To provide another option for desegregation.	Same as district's goals.	Pairing and clustering; closing of selected schools.
MONTGOMERY COUNTY	To desegregate a particular geographic area.	Same as district's goals.	Redrawing attendance zones; pairing and clustering.
RACINE	To desegregate a particular geographic area.	Same as district's goals.	Redrawing attendance zones.
SPRINGFIELD	To desegregate a particular geographic area and meet parent demands.	Same as district's goals	Redrawing attendance zones; grade reorganization; closing of selected schools; pairing and clustering.
STOCKTON	To desegregate the district as a whole.	Same as district's goals.	Pairing and clustering; closing of selected schools.
ST. PAUL	To desegregate a particular geographic area and provide educational options.	Same as district's goals.	Redrawing attendance zones; pairing and clustering; consolidation of schools.
TULSA	To desegregate the district as a whole and certain schools.	50% minority, 50% majority	M to M transfer; redrawing attendance zones; pairing and clustering; pairing and clustering dismantled Fall 1985.

* All goals allow some deviation.

mandatory means due to extreme white resistance[4], as well as in other schools around the city in order to reduce white flight and resistance.

As this brief discussion suggests, although we have classified the school districts into two exclusive categories for analytical purposes -- mandatory and voluntary, it may be more accurate to describe the mandatory-voluntary dimension in terms of a continuum. Because of the fact that the districts with voluntary plans use some mandatory techniques and the mandatory plans do not encompass all schools, as well as the fact that the plans have changed somewhat over time, there will always be some disagreement as to exactly how to classify each of these plans. For example, although this study builds on the 1979 Abt Associates study, we disagree with their classification of three school districts.

We strongly disagree with their categorization of the Dallas plan as a voluntary plan. Dallas desegregated its secondary schools in 1971 by redrawing attendance zones. It desegregated its elementary schools in 1976 by creating six sub-districts and pairing and clustering schools within each subdistrict. All of this was accomplished by mandatory reassignment, although magnet schools were added in 1976 as educational options.

We also disagree with their classification of the Racine plan as a voluntary plan. The school district administration describes its plan as one which mandatorily reassigns students so as to desegregate all the schools. The 1975 plan reduced racial imbalance by 20 percentage points and since there are only four magnets, their effect is obviously limited. The four magnet schools are educational options within this plan.

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[4] A white enclave, East Boston, was excluded from the mandatory reassignment portion of the plan and only magnet schools were placed in that section.

We then added two more magnet-voluntary plans from our 119 school district sample to replace Racine and Dallas, now reclassified as mandatory. The school districts added were Cincinnati and San Bernardino, both nationally recognized as examples of voluntary desegregation plans, although neither enjoys a reputation as an extraordinarily successful voluntary plan.[5]

We also ultimately disagreed with their categorization of Montclair as a magnet-mandatory plan. Although the Montclair school district implemented several mandatory plans involving grade reorganization and school pairings between 1971 and 1975, mandatory reassignments were discontinued in 1977 with the implementation of the district-wide voluntary magnet school plan and the elimination of attendance zones. All schools, with the exception of the one high school, are magnet schools with special programs designed to attract students from all over the district.[6]

Sampling Criterion

Although there are only 9 magnet-voluntary school desegregation plans in this sample, they represent 2/3 of the school districts with such plans in the 119 school district sample from which the 20 district sub-sample is drawn. Originally, Abt Associates chose their sample on a random basis after first stratifying the potential population of school districts along two major dimensions: percent minority in the school district population and whether the desegregation plan utilized a magnet-voluntary or a magnet-mandatory structure. Among the population of school districts between 10 and 60 percent minority, those with magnet-voluntary and magnet-mandatory plans were verified by telephone calls. School districts were selected randomly from among the sites in each category.

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[5] Although theoretically we could have added Chicago and Philadelphia to the sample, instead of Cincinnati and San Bernardino, that would have made the voluntary plan sample even less comparable to the mandatory plan sample than it is now and would have violated the original Abt Associates sampling criterion that districts be between 10 and 60 percent minority. We do, however, analyze the Chicago and Philadelphia plans in Chapter 5.

[6] This plan is very similar to the Cambridge controlled choice plan except that in Montclair there is more of a conscious attempt to develop and advertise the special programs in each school and they are explicitly called magnet programs.

All but 4 of the 18 school districts chosen by Abt Associates were in the original sample of 113 school districts analyzed and reported on by Rossell during the last decade. The 113 school districts were chosen from a 200 district sample because they had had an NORC Permanent Community Sample study conducted in them. The 200 district sample was selected randomly proportional to size from among those school districts with 3,000 black students in 1960 (see Appendix B in Kirby, Harris, Crain, and Rossell, 1974 for a more detailed description of the sampling procedure). The four school districts which were added to the original 113 school district sample in order to update the Abt Associates study are Dallas, Texas; Montclair, New Jersey; Montgomery County, Maryland; and Stockton, California.

Community Characteristics

The resulting sample of 20 school districts is quite varied in terms of most population characteristics ranging from the huge predominantly minority Houston school district to the tiny predominantly white Montclair school district. Table 3-3 shows the 1970 city or county population[7], income and

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[7] Two of the school districts in this sample (Montgomery County and Jefferson County) are countywide school districts and therefore their population characteristics are for the county, not the city.

TABLE 3-3

COMMUNITY CHARACTERISTICS FOR 20 SCHOOL DISTRICTS
1970

			MEDIAN INCOME*		MEDIAN EDUCATION	
	POPULATION	% WH.	TOTAL	BLACK	TOTAL	BLACK
VOLUNTARY						
BUFFALO	470528	78	6568	5307	10.8	9.9
CINCINNATI	452524	71	6411	4645	11.1	11.2
HOUSTON	1231394	61	8056	5080	12.1	10.0
MILWAUKEE	717099	82	8138	6168	11.9	10.3
MONTCLAIR	44043	72	9633	6500	12.7	11.5
PORTLAND	382619	90	6705	4805	12.3	11.3
SAN DIEGO	693931	76	6225	5157	12.5	11.7
SAN BERNARDINO	104251	84	6848	5186	12.1	10.7
TACOMA	154581	89	7293	6442	12.2	11.6
AVERAGE	472330	78	7320	5477	12.0	10.9
MANDATORY						
BOSTON	641071	79	5921	5023	12.0	11.6
DALLAS	844403	66	7984	5307	12.3	10.2
DAYTON	243405	69	7236	6831	11.4	10.8
DESMOINES	200587	92	7504	5358	12.4	11.6
LOUISVILLE**	695055	86	8309	4732	11.6	10.1
MONTGOMERY CO.	522809	91	14090	7460	13.8	12.9
RACINE	95162	85	8982	6544	11.9	9.6
SPRINGFIELD	163905	84	7298	5646	12.0	10.7
STOCKTON, CA	107644	58	6706	3988	12.1	10.0
ST PAUL	309980	93	7695	5094	12.2	11.2
TULSA	330409	85	8231	3726	12.4	11.0
AVERAGE	377675	81	8178	5428	12.2	10.9
GRAND AVERAGE	420270	80	7792	5450	12.1	10.9

* Household Income
** Jefferson County, Kentucky

TABLE 3-4

AVERAGES AND CORRELATIONS OF PREDESEGREGATION SCHOOL DISTRICT AND COMMUNITY CHARACTERISTICS WITH VOLUNTARY AND MANDATORY PLANS

	AVERAGE		VOLUNTARY PLANS
COMMUNITY CHARACTERISTICS	MANDATORY	VOLUNTARY	r
CITY POPULATION	377675	472330	0.16
% WHITE CITY 1970	80.6	78.1	-0.12
INCOME 1970	8178	7320	-0.24
MINORITY INCOME 1970	5406	5477	0.04
EDUCATION 1970	12.2	12.0	-0.19
MINORITY EDUCATION 1970	10.9	10.9	0.02
SCHOOL DISTRICT CHARACTERISTICS			
% WHITE T-2	73.2	64.0	-0.30
ENROLLMENT T-1	74088	82178	0.08
WHITE ENROLLMENT CHANGE T-1	-4.4	-4.3	0.01
WHITE ENROLLMENT CHANGE T-2	-3.0	-4.5	-0.29
WHITE ENROLLMENT CHANGE T-3	-2.8	-3.7	-0.14
WHITE ENROLLMENT CHANGE T-4	-2.7	-5.8 *	-0.47
INTERRACIAL EXPOSURE T-2	44.3	40.8	-0.09
YEAR OF DESEGREGATION PLAN	74	75	0.18
RACIAL IMBALANCE T-2	63.6	47.4	-0.15

* Significant at .05 level.

education characteristics of the 20 school districts.[8] As Table 3-3 and Table 3-4 indicate, the mandatory desegregation plans were in cities that before desegregation were smaller in population and percentage minority, and higher in income and education than the cities where voluntary plans were implemented. In other words, in this sample, the districts with voluntary plans are at a predesegregation disadvantage in comparison to the mandatory plans. By 1980, the differences between the two groups had diminished due to a slightly greater increase in median income and educational level in the school districts with voluntary plans. (See Appendix 1.) There is no significant difference, however, between the two types of plans and their predesegregation interracial exposure or the year of desegregation.

Magnet Programs

There are basically two types of magnet school structures: 1) those where the magnet program is an enclave in a larger regular school, that is, not all the students in the school are in the program, and 2) those where the magnet program encompasses the entire school, that is, all students in the school are enrolled in the magnet program. The former we call a "program within a school" (PWS). Some districts, such as Houston, call this a "school within a school" (SWAS). The latter type of magnet structure, where all students enrolled in the school are in the magnet program, we call a "dedicated" magnet.

The data in Table 3-5 do not distinguish between these two types of programs because only a few school districts sent us separate data for students participating in the magnet program. Therefore, all percentages of students

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[8] Appendix 1 shows these same characteristics in 1980, and shows the change between 1970 and 1980.

TABLE 3-5

PERCENTAGE OF STUDENTS IN MAGNET SCHOOLS 1982

DISTRICT	1982 % MIN	MAGNET GRADE LEVEL	# MAGNET SCHOOLS	% MAGNET SCHOOLS	% MINOR. IN MAGNETS	% WHITE IN MAGNETS	% ALL STUDENTS IN MAGNETS	AVERAGE % MINORITY IN MAGNETS
VOLUNTARY								
BUFFALO	54	elem/mid	14					
		mid/hs	3					
		hs	2					
		total	19	27.2	32.9	31.3	32.2	54.4
CINCINNATI	58	elem	26					
		k-12/4-1	4					
		k-8	1					
		mid	7					
		h.s.	2					
		7-12	1					
		total	40	51.3	24.2	24.9	24.5	61.1
HOUSTON	78	elem/k-8	37					
		mid	12					
		h.s.	16					
		total	65	28.0	30.6	37.3	32.1	74.4
MILWAUKEE	58	elem	13					
		j.h.	7					
		h.s.	15					
		total	35	26.9	36.7	46.2	40.7	55.1
MONTCLAIR	48	elem	6					
		mid	2					
				100.0	100.0	100.0	100.0	
		total	8	88.9	59.5	65.6	64.5	45.7
PORTLAND	27	elem	8					
		k-12	1					
		h.s.	4					
		total	13	13.1	33.4	15.0	19.9	50.2
SAN BERNARDINO	52	elem	23					
		mid	2					
		elem & m	25	62.5	63.0	54.3	59.0	
		total	25	54.3	47.4	37.7	42.7	56.8
SAN DIEGO	50	elem	24					
		j.h.s.	5					
		k-12/4-1	3					
		h.s.	8					
		total	40	25.5	32.2	21.0	26.6	60.0
TACOMA	26	elem	5	12.5	22.0	10.0	13.0	
		total	5	8.2	12.3	5.4	7.2	44.7

TABLE 3.5 (cont.)

DISTRICT	1982 % MIN	MAGNET GRADE LEVEL	# MAGNET SCHOOLS	% MAGNET SCHOOLS	% MINOR. IN MAGNETS	% WHITE IN MAGNETS	% ALL STUDENTS IN MAGNETS	AVERAGE % MINORITY IN MAGNETS
MANDATORY								
BOSTON	71	elem	10					
		6-8	3					
		7-12	5					
		9-12	5					
		total	23	19.3	28.9	31.8	29.7	71.4
DALLAS	74	elem	5					
		7-8	4					
		h.s.	6					
		total	15	8.2	10.9	6.2	9.7	82.5
DAYTON	59	elem	3					
		7-9	5					
		10-12	1					
		total	9	21.9	24.7	23.3	24.1	60.2
DES		elem	3	6.9	12.3	4.6	6.0	
MOINES	18	total	3	4.9	6.7	2.4	3.1	37.7
LOUIS-	30	elem	4					
VILLE		K-12	1					
		7-12	1					
		j.h.	1					
		h.s.	1					
		total	8	5.7	4.8	5.6	5.4	27.8
MONT-	26	elem	12					
GOMERY		j.h.s.	2					
		h.s.	3					
		total	17	11.4	18.0	5.1	8.4	54.1
RACINE	27	elem	3					
		7-12	1					
		total	4	11.4	7.5	7.5	7.5	23.5
SPRING-	52	elem	8					
FIELD		j.h.s.	2					
		elem. &	10	27.8	42.1	26.6	34.8	
		total	10	25.0	32.0	19.6	26.1	61.7

TABLE 3.5 (cont.)

DISTRICT	1982 % MIN	MAGNET GRADE LEVEL	# MAGNET SCHOOLS	% MAGNET SCHOOLS	% MINOR. IN MAGNETS	% WHITE IN MAGNETS	% ALL STUDENTS IN MAGNETS	AVERAGE % MINORITY IN MAGNETS
ST. PAUL	31	elem	4					
		k-8	1					
		k-12	1					
		total	6	9.2	12.2	9.7	10.5	34.9
STOCKTON	68	elem	3	11.1	8.7	8.3	8.6	
		total	3	7.7	5.0	4.9	4.9	66.5
TULSA	33	elem	8					
		mid	1					
		elem. &	9	10.3	25.7	8.3	24.0	
		total	9	9.4	19.9	6.4	10.8	61.2

participating in magnet schools are based on the 1982 enrollment in those schools. Those school districts, San Diego and Houston, which did give us data on program participation suggest that the district percentage of students actually participating in the magnet programs could be almost half the number of students in the district participating in magnet schools. For example, in San Diego there were 30,834 students enrolled in schools with magnet programs, but only 17,687 were actually participating in the magnet programs in 1982. In Houston, there were 62,343 students enrolled in schools with magnet programs, but only 30,100 students actually participating in the magnet program in 1982. Since most magnet programs are placed in minority schools, there is less of a disparity between the white enrollment in the school and in the program. For example, in San Diego there were 8,000 more minority students enrolled in magnet schools but not in the program. There were only 4,500 more white students enrolled in magnet schools, but not in the programs.

These data show considerable variation within the two categories of mandatory and voluntary desegregation plans. Among the school districts with voluntary plans, Tacoma has the lowest percentage of magnet schools and students participating and Montclair the highest. The average percentage minority in magnet schools is within five percentage points of the percentage minority in the school district in every school district except San Diego, Tacoma and Portland. San Diego's average is within 10 percentage points of the district's racial composition. In Tacoma and Portland, the goals of the magnet schools are to have a racial composition that is 50-50, although the district percentage minority is 26 and 27 percent respectively.

A word should be said about Houston which is often mentioned as a school district with an "unsuccessful" voluntary magnet desegregation program.[9] As these data indicate, in 1982-83, 28 percent of the schools in Houston are magnet schools, and almost 1/3 of the students in the district are enrolled in them. The average percentage minority in these magnet schools, however, is 75 percent, and it is from this fact that Houston gets its reputation. Few observers notice that this is within five percentage points of the school district's racial composition. As Appendix 4a and Table 4-10 show, the dismantling of the mandatory plan and the adoption of a voluntary plan produced no resegregation whatsoever, contrary to popular belief. Indeed, the level of racial imbalance dropped by another thirteen percentage points over the next decade and every single year, including the most recent, shows improvement.[10] We know of no other school district which is 82 percent minority with as much interracial exposure (12.8 in 1985) and as much racial balance (57.4 in 1985). By these standards, the Houston magnet school plan is a successful one.

Another surprise for us was the San Bernardino magnet school plan. The plan has received no favorable publicity that we are aware of. As Table 3-5 indicates, however, San Bernardino has more students in magnet schools than either Milwaukee or Buffalo, the school districts usually touted as having the most successful magnet-voluntary desegregation plans. Moreover, although it has a percentage minority that is only 6 percentage points below Milwaukee in 1982 and only 2 percentage points below Buffalo, the level of interracial exposure in the tenth year of desegregation in San Bernardino was nine percentage points higher than Milwaukee and a half percentage point higher than Buffalo. By these standards, the San Bernardino plan is at least as successful as Buffalo and more successful than Milwaukee. This is especially surprising because San Bernardino is one of two school districts in our sample (Cincinnati is the other) with no specific numerical desegregation goals (i.e., all schools reflect the district's racial composition with an allowed deviation).

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[9] The 1979 Abt Associates report, for example, classifies Houston as low district desegregation/low program effectiveness. They found that as of 1977-78, only 8 percent of students were participating in magnet programs and "that magnets, because of their limited coverage of the population have contributed little to district desegregation" (Royster, et al., 1979: 72). This was only the second year of their plan, however.

[10] Nevertheless, it should be noted that the 1970 mandatory plan was limited. It only reassigned between 3 and 6 percent of the white students and reduced racial balance by only nine percentage points from 1970 to 1974. Indeed, in terms of change, the 1968 plan was the most successful of all -- it reduced racial imbalance by 11 percentage points from 1968 to 1969.

On the other hand, Cincinnati turned out to be less successful in desegregating its schools than we had expected given its rather good national reputation as a comprehensive magnet-voluntary plan. In terms of racial balance and interracial exposure, it is the least successful magnet-voluntary plan in our sample among the districts with the same racial composition. The Cincinnati school district, however, signed a consent decree in 1984 promising to expand its desegregation program. It now has an ambitious numerical desegregation goal. (See Chapter 5, footnote 4).

Table 3-6 summarizes these data. The magnet-voluntary plans clearly rely on magnet schools as their primary desegregation tool. The magnet-voluntary plans have almost three times the number and percentage of magnet schools as the magnet-mandatory plans. The average number of magnet schools in districts with voluntary plans is 28, representing 36 percent of the schools in the district. The average number of magnet schools in districts with mandatory plans is 10, representing 12 percent of the schools in the district. The percentage of students in magnet schools in the districts with voluntary plans is 32 percent, but only 13 percent for the districts with mandatory plans. The districts with voluntary plans have a slightly higher

TABLE 3-6

PERCENTAGE OF STUDENTS IN MAGNET SCHOOLS 1982 IN VOLUNTARY AND MANDATORY PLANS

DISTRICT	1982 % MIN	# MAGNET SCHOOLS	% MAGNET SCHOOLS	% MINOR. IN MAGNETS	% WHITE IN MAGNETS	% ALL STUDENTS IN MAGNETS	AVERAGE % MINORITY IN MAGNETS
VOLUNTARY							
SUM		250					
AVERAGE (N=9)	50	28	35.9	34.4	31.6	32.3	55.8
MANDATORY							
SUM		107					
AVERAGE (N=11)	44	10	12.2	15.5	11.1	12.7	52.9
GRAND SUM		357					

average percentage minority in their magnet schools because they have a higher percentage minority in their school system. These data also show little difference between white and minority participation in magnet schools.

Table 3-7 shows the type of magnet school programs in the 20 school districts. Of our total sample, 228 magnet programs are in elementary schools, 53 are in middle schools and 76 are in high schools. Middle schools are in the same group as elementary schools because the programs at this level are more similar to those at the elementary level than they are to those at the high school level.[11] Elementary and middle programs tend to be more curricular oriented and high school programs tend to be more vocational or career oriented. There is also some overlap. Both groups include college prep, creative and performing arts, foreign languages, and math/science/computers. It is really only the creative and performing arts magnets, however, which seem to be equally popular at all grade levels.

Most of the magnet programs are in elementary schools. There are two reasons for this. First and most importantly, most of the schools in a district will be elementary schools. Secondly, and related to that, because elementary schools have smaller attendance zones, they are less likely to be desegregated by redrawing contiguous attendance zones and thus, in a magnet-voluntary plan, to be more in need of a magnet program to attract opposite race students. In a magnet-mandatory plan, the elementary schools and middle schools typically will have suffered more white flight and thus will be more in need of a magnet program to desegregate them.

Table 3-8 shows the location of magnet schools for the entire sample and for voluntary and mandatory plans. Since we have no data on the racial

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[11] In addition, one of our school districts, Buffalo, has no middle schools. Schools are either k-8 (or preschool - 8) or high school.

TABLE 3-7

TYPE OF MAGNET SCHOOL PROGRAMS
TOTALS FOR ALL DISTRICTS

MAGNET PROGRAM	TOTAL		ELEM[a]		MIDDLE		HIGH[b]	
ELEMENTARY/MIDDLE SCHOOLS:	N	%	N	%	N	%	N	%
Basic Skills/Individualized	32	12						
Foreign Languages	31	11						
Science/Math/Computers	31	11						
Gifted and Talented	27	10						
Visual/Performing/Creative Arts	26	10						
Fundamental/Traditional	22	8						
College Prep	20	7						
Early Childhood/Montessori	18	7						
Multicultural/International	13	5						
Extended Day	11	4						
Physical Education	7	3						
Life Skills/Careers	7	3						
Reading/Writing/Humanities	6	2						
Open School	6	2						
University Lab School	5	2						
Ecology/Environment	3	1						
Other	3	1						
Special Needs	2	1						
TOTAL	270	100						
HIGH SCHOOLS:								
Science/Aviation/Engineering/Com	14	19						
Vocational/Career Preparation	10	14						
Business/Marketing	8	11						
Creative & Performing Arts	7	10						
College Prep	5	7						
Medical Careers	5	7						
International/Multicultural	4	6						
Communications/Mass Media	4	6						
Law & Criminal Justice	3	4						
Foreign Languages	2	3						
Teaching Careers	2	3						
Fundamental	2	3						
Transportation	1	1						
Individualized, Open Ed	2	3						
University Laboratory	1	1						
Community/Gov't/Life Skills	1	1						
Hotel and Restaurant Careers	1	1						
TOTAL	72	100						
TOTAL NUMBER OF MAGNET SCHOOLS[c]	357	100	228	64	53	15	76	21

a Includes K-12 and K-8 schools.
b Includes 5-10 and 7-12 schools.
c Total in each category does not add up to total number of magnets due to missing data on magnet programs.

TABLE 3-8

PERCENTAGE OF MAGNET SCHOOLS IN LOCATIONS OF DIFFERING RACIAL COMPOSITIONS

	MANDATORY	VOLUNTARY	TOTAL
	%	%	%
WHITE LOCATIONS a	37	32	33
INTEGRATED LOCATIONS b	18	22	21
MINORITY LOCATIONS c	44	47	46
	100	100	100

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a School < 25% minority predesegregation.
b School 25 - 49% minority predesegregation.
c School >= 50% minority predesegregation.

composition of the neighborhood in which these schools are located, location is operationalized as the predesegregation percentage minority in the school. White locations are schools which were less than 25 percent minority predesegregation, integrated locations are schools which were between 25 and 49 percent minority predesegregation, and minority locations are schools which were at or above 50 percent minority desegregation. These data show that for the entire sample, 33 percent of the magnet programs are in white locations, 21 percent are in integrated locations and 46 percent are in minority locations. We were surprised that as high as 1/3 of the magnet programs were in white locations since we expected school districts to place almost all of their magnets in their hardest to desegregate schools -- the minority schools. Districts with voluntary plans have a slightly higher percentage of magnet programs located in formerly minority schools and integrated schools, and a slightly lower percentage in formerly white schools, but the differences are small and insignificant.

Table 3-9 shows the correlation between predesegregation percentage minority and the type of magnet school program. In other words, are certain kinds of magnet programs placed in certain locations? These data show a tendency for foreign language and multicultural/international magnet themes to be placed in formerly white locations and for early childhood/Montessori magnet themes to be placed in minority locations. For the other nine magnet themes, there is no relationship between the magnet theme and location. This is particularly surprising for gifted and talented programs. Given their reputed success in attracting whites to predominantly minority neighborhoods (Rosenbaum and Presser, 1978; Levine and Eubanks, 1980; Fleming, et al., 1982), we expected school districts to place all of their gifted and talented programs in minority neighborhoods.

TABLE 3-9

CORRELATION BETWEEN PREDESEGREGATION PERCENTAGE MINORITY AND CURRICULUM

	Predesegregation % Minority
	r
Math/Science	-0.01
Gifted	0.05
Creative	0.09
Foreign Languages	-0.12 *
Basic Skills/Individualized	0.00
Fundamental	0.01
Extended Day	0.00
Multi-cultural/International	-0.10 *
College Preparatory	0.03
Early Childhood/Montessori	0.12 *
Physical Education	0.04
Careers	0.04

* Significant at .05 or better level

Magnet Success

Table 3-10 compares voluntary and mandatory plans in terms of three indicators of magnet success. The first measure of magnet success is the percentage white in the school. The second measure of magnet success is the absolute deviation of a school's racial composition from a 50/50 racial composition. These two measures are limited in that they do not tell us the extent to which a school is filled to capacity. Therefore, the third measure of magnet success is the percentage of predesegregation enrollment achieved in 1982. This is a crude measure of the extent to which the school utilizes its capacity.

These results are also surprising. Although the mandatory plans have the presumed threat of mandatory reassignment as a stimulus to volunteering, there is little difference between districts with voluntary plans and mandatory plans in terms of the percentage white, deviation from racial balance, and the percentage of predesegregation enrollment achieved in magnet schools. Both types of plans have a percentage white enrollment that is close to 40 percent in their magnet programs, an average deviation from racial balance a little less than 20 percentage points, and both types of plans have managed to fill their schools to their predesegregation level.

Table 3-10

Magnet Success in Voluntary and Mandatory Plans

SUCCESS INDICATORS	VOLUNTARY	MANDATORY
% White 1982	38.7	40.8
Deviation from 50% white (in % pts.)	17.2	19.4
% of Predesegregation Enrollment	101.0	103.0

Table 3-11 shows the average for the indicators of magnet success -- the percentage white, the average predesegregation enrollment achieved, and deviation from racial balance -- by magnet school grade level, location, and curriculum. First, these data suggest that middle schools are the problem schools. They have the lowest percentage white in them and the lowest percentage of predesegregation enrollment achieved. This pretty much conforms to the national assessment of middle schools as the most problematic grade level.[12] These data show high schools, on the other hand, to have the greatest deviation from a 50/50 racial balance.

Second, these data show the powerful effect of location in achieving racial balance. The average percentage white in magnet schools in minority locations is 28.7, in integrated locations it is 40.8, and in white locations it is 52.8 percent. White locations also have the least deviation from racial balance and minority neighborhoods the greatest. In other words, schools in white locations are more successful in attracting minorities than schools in minority locations are in attracting whites. Almost the opposite is true for percentage of predesegregation enrollment achieved. The minority locations have the highest percentage of predesegregation enrollment, and the integrated neighborhoods have the least.

Third, these data indicate that contrary to popular belief the gifted and talented programs, which comprise almost 10 percent of the total programs, do not do the best job of desegregating schools. The major problem with gifted and talented magnet programs is that, because they have a rigorous selection criterion, they remain relatively small programs. Small elite programs such as these will often have difficulty desegregating an entire school. The most

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[12] Middle schools also constitute a problem in so far as many districts have K-8 schools and 8-12 schools. This makes it very difficult to analyze them separately.

Table 3-11

Magnet Success Indicators and School Characteristics

	% White 1982	% of Predeseg Enrollment 1982	Deviation from 50/50 Racial Balance
	Average	Average	Average
GRADE LEVEL			
Elementary	40.70	103.80	16.80
Middle	35.60	84.90	17.90
High	38.00	107.50	20.90
PREDESEG. RACIAL COMP.			
Minority Location	28.70	106.40	24.10
Integrated Location	40.80	88.20	13.80
White Location	52.80	96.10	12.10
CURRICULUM			
Basic Skills/Individuals	48.00	92.80	14.90
Fundamental	45.00	122.30	18.90
Multicultural/International	43.90	85.90	13.80
Physical Education	43.50	115.40	10.30
Foreign Language	41.40	88.20	14.30
Other	39.70	137.20	16.30
College Preparatory	39.20	66.10	17.50
Early Childhood/Montessori	39.10	97.20	16.40
Creative and Performing Arts	38.70	107.10	19.30
Math/Science	37.50	89.50	18.30
Gifted and Talented	36.30	105.40	20.20
Extended Day	34.20	116.10	18.50
Careers	30.40	119.20	23.50

successful programs are those with the least distinctive magnet theme -- the basic skills and individualized instruction programs. Next in popularity are the fundamental or traditional programs with a strict dress and discipline code. This both confirms and disagrees with Royster et al.'s (1979) findings. They found as we did that non-traditional magnet themes -- that is, individualized, child-centered programs -- were the most popular. Contrary to our finding, however, they found traditional programs the least popular.

Table 3-12 shows the zero order correlations (r) between the same three indicators of magnet success -- the percentage white in a magnet school, the percentage of predesegregation enrollment achieved, and deviation from racial balance -- and magnet school grade level, location, and curriculum. Table 3-12 also shows the partial correlations (partial r) between the magnet success indicators and school characteristics controlling for the predesegregation percentage minority. These data confirm the preliminary assessment shown in Table 3-11. Magnet schools are most successful at the elementary level and least successful at the middle and high school level. The most successful magnet themes are the basic skills/individualized programs and the fundamental programs. Although it appears that the careers magnet themes (business, computer processing, medical, engineering, aerospace, etc.) are the least successful, this is confounded by the fact that 83 percent of these programs are in high schools.

Table 3-13 shows the average percentage white and the zero order correlations (r) between percentage white and school characteristics in minority locations. We find pretty much the same relationships as for all schools. The elementary schools have the highest percentage white and the middle schools the least. In minority neighborhoods, the basic skills/individualized magnet program is still the most popular and that is

Table 3-12

Correlations between Magnet Success Indicators and Magnet School Characteristics

MAGNET SCHOOL INDICATORS

	Zero Order Correlations			Partial Correlations Controlling for Predesegregation % Minority		
	% White 1982	% of Predeseg. Enrollment	Deviation from 50/50 Balance[a]	% White 1982	% of Predeseg. Enrollment	Deviation from 50/50 Balance[a]
	r	r	r	partial r	partial r	partial r
GRADE LEVEL						
Elementary	0.09	0.04	-0.10 *	0.08	0.04	-0.10 *
Middle	-0.08	-0.11 *	0.01	-0.11 *	-0.11 *	0.02
High	-0.03	0.05	0.11 *	-0.01	0.04	0.10 *
PREDESEG. RACIAL COMP.						
% Minority	-0.52 *	0.08	39.60 *			
Minority location	-0.48 *	0.07	39.90 *			
Integregated location	0.04	0	-15.30 *			
White location	0.47 *	-0.07	-29.00			
CURRICULUM						
Math/Science	-0.04	-0.07	0.01	-0.05	-0.07	0.02
Gifted and Talented	-0.05	0.02	0.05	-0.07	0.01	0.05
Creative and Perf. Arts	-0.01	0.03	0.04	0.04	0.02	0.01
Foreign Language	0.03	-0.08	-0.08	-0.03	-0.07	-0.04
Basic Skills/Individ.	0.15 *	-0.05	-0.07	0.17 *	-0.05	-0.06
Fundamental/Traditional	0.08	0.09 *	0.02	0.14 *	0.09 *	-0.01
Extended Day	-0.05	0.04	0.01	-0.06	0.04	0.01
Multi-cultural/Internat'l	0.05	-0.06	-0.06	-0.02	-0.05	-0.02
College Preparatory	0	-0.17 *	-0.01	-0.01	-0.16	-0.01
Early Childhood/Montessori	-0.01	-0.02	-0.02	0.07	-0.03	-0.08
Physical Education	0.03	0.03	-0.08	0.04	0.03	-0.11 *
Careers	-0.17 *	0.1 *	0.15 *	-0.15 *	0.10 *	0.13 *
Other	0.03	0.15 *	-0.03	-0.06	0.16 *	0.01

* Significant at .05 level or better.

[a] A negative sign means less deviation from racial balance; a positive sign means more deviation.

Table 3-13

Average % White and Correlations of % White with Magnet School Characteristics in Minority Locations

	% White 1982 Avg.	% White 1982 r	
GRADE LEVEL			
Elementary	29.5	0.05	
Middle	25.6	-0.06	
High	28.5	-0.01	
PREDESEGREGATION RACIAL COMPOSITION			
% Minority		-0.12	
Minority Location	28.7		
CURRICULUM			
Basic Skills/Individual	40.5	0.21	*
Fundamental	38.9	0.14	*
Physical Education	36.5	0.07	
Early Childhood/Montessori	34.2	0.09	
Gifted and Talented	32.1	0.06	
College Prep	30.5	0.02	
Creative and Performing Arts	29.0	0.01	
Math/Science	25.8	-0.05	
Multicultural/International	24.8	-0.02	
Other	20.5	-0.10	
Foreign Language	19.3	-0.13	*
Extended Day	18.6	-0.09	
Careers	18.2	-0.22	*

* Significant at .05 or better level.

statistically significant. Fundamental programs are the next most popular and that is statistically significant. Foreign language programs and careers programs in minority locations are the least popular among whites and these relationships are statistically significant.

Table 3-14 shows the average percentage minority and correlations between percentage minority and school characteristics in white locations. Middle schools, even in white locations, have the highest percentage minority. These data also indicate that gifted and talented programs have the highest percentage minority and early childhood or Montessori programs the lowest percentage minority. Since gifted and talented programs are monitored by the courts to make sure that minorities are adequately represented, this finding makes a certain amount of sense. None of these relationships are statistically significant, however, perhaps because of the smaller number of schools in white locations than in minority locations or perhaps because, as the success of M to M programs suggests, white schools are more prestigious to begin with and thus the specific type of program matters less.

Table 3-15 shows the relative strength of all of the school district variables, the school characteristics, and the magnet programs when compared to each other in predicting a magnet school's percentage white in 1982. The first column represents the average for that variable in this sample. The r represents the simple correlation between percentage white and each of the independent variables on the left. The b represents the change in percentage white for a one unit change in each of the variables listed on the left, holding all the other variables constant.[13] The Beta is a standardized regression coefficient which tells us the relative strength of each of these variables in

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[13] The term e-9 to the right of the b coefficient means to add 9 decimal places to the left of the decimal place shown.

Table 3-14

Average % Minority and Correlations of % Minority with Magnet School Characteristics in White Locations

	% Minority 1982 Avg.	% Minority 1982 r
GRADE LEVEL		
Elementary	46.7	-0.05
Middle	58.0	0.23
High	43.0	-0.12
PREDESEGREGATION RACIAL COMPOSITION		
% White		-0.10
White Location	47.2	
CURRICULUM		
Gifted and Talented	54.8	0.14
Careers	52.4	0.14
Physical Education	49.8	0.03
Extended Day	48.1	0.02
Multicultural/International	47.8	0.03
Foreign Language	47.2	0.03
Other	47.1	0.02
College Prep	46.4	0.00
Creative and Performing Arts	44.6	-0.03
Math/Science	43.9	-0.05
Basic Skills/Individual	41.2	-0.12
Fundamental	41.1	-0.11
Early Childhood/Montessori	33.1	-0.12

Table 3-15

Predictors of Magnet School Percentage White 1982

Variable	Avg	r	b	Beta	SE b
Percentage White 1982	0.39				
SCHOOL DISTRICT VARIABLES					
Pct. Minority in Dist 1982	55.54	-0.475	-0.006	-0.498 *	0.001
City or County Educ Level	12.00	-0.034	-0.047	-0.200 *	0.010
Year of Major Plan	74.52	0.070	0.011	0.148 *	0.003
Major Plan Is Voluntary	0.70	-0.046	0.014	0.033	0.019
Total Enroll in Dist 1982	54539.97	-0.144	-9.10e-9	-0.001	2.75e-7
SCHOOL CHARACTERISTICS					
Percent Min Year Before Deseg	0.50	-0.523	-0.290	-0.514 *	0.023
Middle.High, High Dummy	0.21	-0.034	0.083	0.169 *	0.032
Total Enrollment 1982	718.84	-0.064	3.29e-5	0.083	2.09e-5
New School	0.05	-0.032	0.062	0.066	0.038
Elem,Elem.Middle,K-12 Dummy	0.64	0.087	0.007	0.018	0.025
MAGNET PROGRAMS					
Basic skills/Individual	0.12	0.153	0.115	0.182 *	0.038
Careers Mag * High	0.10	-0.179	-0.093	-0.136	0.113
Creative and Performing Arts	0.11	-0.014	0.080	0.123	0.039
Gifted and Talented	0.09	-0.049	0.072	0.100	0.040
Physical Education	0.02	0.030	0.102	0.076	0.059
Fundamental	0.07	0.076	0.048	0.062	0.042
Careers Mag * Elem	0.01	-0.002	0.098	0.058	0.127
Early Childhood/Montessori	0.05	-0.005	0.046	0.050	0.047
College Prep	0.07	-0.004	0.039	0.049	0.044
Foreign Language Program	0.10	0.030	0.032	0.046	0.039
Math/Sciences	0.11	-0.035	-0.023	-0.036	0.038
Careers/Life Skills	0.12	-0.168	-0.021	-0.033	0.112
Multicultural/International	0.05	0.050	-0.010	-0.011	0.047
Extended Day	0.03	-0.048	-0.002	-0.002	0.053
r square	0.569				
adjusted r square	0.535				
standard error of estimate	0.138				
df	300				

* Significant at .05 or better level.

predicting percentage white, in standard deviation units, holding all other variables constant. The standard error of the b (SE b) is the variability in b regression coefficients which might be found in subsequent samples drawn from the same population. If the standard error of the b is larger than the b, we can have no confidence in the sign of the coefficient (that is, whether it is a positive or negative relationship). If the b coefficient is 1.95 times the standard error of the b, the relationship between that variable and a magnet school's percentage white is significant at the .05 level or better (using a two-tailed test).

This equation indicates that the higher the percentage minority in the school district, the lower the percentage white in a magnet school. Obviously, the percentage white in the district is something of a constraining factor in how high the percentage white can be in any one magnet school when it is competing with a number of other programs. This is particularly true when school districts and courts try to maintain racial balance in all or almost all of the schools. The higher the median educational level, the lower the percentage white in a magnet school. In other words, magnet schools do better in school districts where the social class of the community is lower and the competition with private schools not as great. The later the year of implementation of a magnet program, the higher the percentage white in a magnet. This may be a function of the fact that all desegregation plans produce some implementation year white flight and the later this occurs, the less reduction in percentage white by 1982. It may also be a function of a tapering off of the dramatic declines in white birth rates in the 70's. The school district's total enrollment and whether or not a plan is voluntary make no difference in the magnet school percentage white.

Only two school characteristics are statistically significant predictors of percentage white. First, the higher the predesegregation percentage minority in the magnet school, the lower the percentage white. Second, high school magnets which are not career or vocational specialty magnets have a higher percentage white.[14] No magnet program curriculum is significantly better than the others except the basic skills/individualized curriculum.

Table 3-16 shows the school district, school, and magnet program characteristics that predict deviation from racial balance (50/50). In this equation, a positive sign means more deviation from racial balance and a negative sign means less deviation as a function of that variable. There are five significant predictors of deviation from racial balance and four of these are school district variables. The higher the percentage minority in the school district, the more deviation from racial balance. The later the plan is implemented, the less deviation from racial balance. The higher the median educational level, the more deviation from racial balance. Districts with voluntary plans have less deviation from racial balance in their magnet schools than do mandatory plans. This may be because mandatory plans are more likely to require racial balance that conforms to the district's racial proportions, rather than 50/50. At the school level, the higher the percentage minority, the more deviation from racial balance. None of the magnet curriculum variables does a better job than the others of predicting deviation from racial balance.

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[14] The coefficient for a high school magnet can only be interpreted by adding it to the coefficient for the interaction variable, careers times high school. The net effect is -.01 for high school careers magnets and a positive, significant .08 coefficient for the 17 percent of high schools that are not vocational or careers magnets.

Table 3-16

Predictors of Magnet School Deviation From Racial Balance 1982

Variable	Avg	r	b	Beta	SE b
Deviation from Racial Balance	0.18				
SCHOOL DISTRICT VARIABLES					
Pct. Minority in Dist 1982	55.54	0.308	0.003	0.309 *	0.001
Year of Major Plan	74.52	-0.134	-0.011	- 0.196 *	0.003
City or County Educ Level	12.00	0.061	0.029	0.171 *	0.009
Major Plan Is Voluntary	0.70	-0.068	-0.034	- 0.109 *	0.016
Total Enroll in Dist 1982	54539.97	0.166	2.62e-7	0.057	2.39e-7
SCHOOL CHARACTERISTICS					
Percent Min Year Before Deseg	0.50	0.396	0.159	0.400 *	0.020
New School	0.05	0.034	-0.038	- 0.057	0.033
Elementary School	0.64	-0.096	0.013	0.043	0.022
High School	0.21	0.111	-0.014	- 0.040	0.028
Total Enrollment 1982	718.84	0.102	-4.42e-6	- 0.016	1.81e-5
MAGNET PROGRAMS					
Careers Mag * High	0.10	0.190	0.131	0.271	0.098
Careers/Life Skills	0.12	0.149	-0.054	- 0.122	0.097
Multicultural/International	0.05	-0.064	-0.006	- 0.088	0.041
Physical Education	0.02	-0.082	-0.080	- 0.084	0.051
Basic skills/Individual	0.12	-0.074	-0.030	- 0.068	0.033
Early Childhood/Montessori	0.05	-0.022	-0.036	- 0.056	0.041
Creative and Performing Arts	0.11	0.038	-0.026	- 0.056	0.033
Foreign Language Program	0.10	-0.079	-0.025	- 0.052	0.034
Careers Mag * Elem	0.01	-0.045	-0.052	- 0.044	0.110
Fundamental	0.07	0.023	0.022	0.041	0.036
Gifted and Talented	0.09	0.052	-0.017	- 0.033	0.034
Math/Sciences	0.11	0.012	0.012	0.027	0.033
Extended Day	0.03	0.010	0.017	0.021	0.046
College Prep	0.07	-0.005	-0.010	- 0.017	0.038
r square	0.346				
adjusted r square	0.293				
standard error of estimate	0.120				
df	300				

* Significant at .05 or better level.

Note: A negative sign means less deviation from racial balance.

Summary

The analysis of the magnet school programs in our sample demonstrates that magnet schools themselves enroll on average one-third of the students in a school district in districts with voluntary plans and 13 percent of the students in a school district in mandatory plans. The ceiling on magnet participation, however, seems to be 100 percent in small school districts such as Montclair (or Cambridge) which have eliminated attendance zones.

These data confirm that Rossell (1985) was correct in concluding that the three most important variables in predicting the success of a magnet program are location, location, location and that Royster et al. (1979: 92) were correct in stating that magnets in minority neighborhoods have trouble meeting their enrollment goals. Blank et al. (1983: 88) were thus wrong in concluding there is no significant correlation between magnet location and magnet desegregation success.[15] This is not a very policy relevant finding for most school districts, however, since they cannot exclude all minority schools from desegregation nor can they simply close all of them.

We found, as did Royster et al. (1979: 92) that one-third of the programs are in white locations. Another 21 percent are in integrated locations, presumably to stabilize their racial balance. The largest proportion of magnet programs -- 46 percent -- are in minority locations, but this is still less than we believe is optimal for the most efficient utilization of resources. (We return to this point in Chapter 6.)

There are some discernible patterns in the location of particular magnet themes. Foreign language and multi-cultural/international magnets tend to be in white locations. The former are probably placed in white locations because of white demand for such programs, not as a desegregation tool, but as an educational option. The latter may be placed in white locations because they are attractive to minorities. Early childhood and Montessori programs tend to be in minority locations. Such programs are thought to be very attractive to the kind of middle class whites who would transfer their child to a superior school in a minority neighborhood. Moreover, if the magnet fails to desegregate the school, it is still a form of educational enrichment for minority students.

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[15] Their measure of desegregation success is, however, incorrect. See Rossell, 1979:20 for a more detailed discussion of the problems with that study.

The programs in minority neighborhoods with the highest percentage white are the basic skills/individualized and the fundamental programs. The programs with the lowest percentage white in these locations are the foreign language, extended day, and careers magnets. However, only the individualized/basic skills magnets remain significantly related to percentage white in a multiple regression equation when other variables are controlled for. Thus, this is the only magnet curriculum which does significantly better than the other magnet programs in attracting whites regardless of its location. No magnet theme is differentially attractive to minorities when placed in white locations. It should be stressed that this analysis does not demonstrate that the magnet theme of a school is not important to individual parents, whether white or minority, only that overall they are equally popular.

There are four district variables that are consistently important in predicting magnet school success. The higher the percentage minority in the school district, the lower the percentage white in a magnet school and the greater the deviation from racial balance. The lower the median educational level, the higher the percentage white in a district and the less deviation from racial balance. In other words, the lesser the ability to use private schools, the more use of magnet schools. The later the plan is implemented, the higher the percentage white in a magnet school and the less the deviation from racial balance. In part this is a function of the advantage one gains from having less post-implementation years of white enrollment decline. In part it may also be a function of changing attitudes. Every year whites become more liberal and so plans implemented later have less of a negative impact. There is no difference between districts with voluntary plans and districts with mandatory plans in terms of the percentage white in their magnet schools, but the districts with voluntary plans do have less deviation from racial balance than the districts with mandatory plans.

We turn now to the systemwide effect of these magnet programs. Can magnet-voluntary plans which rely principally on voluntary transfers effectively desegregate a school system?

CHAPTER FOUR

THE DESEGREGATION EFFECTIVENESS OF VOLUNTARY AND MANDATORY DESEGREGATION PLANS

As with the original Abt sample, the school districts within the categories "voluntary" and "mandatory" are classified into those above and below 30 percent minority predesegregation. School districts above that point are thought to have significantly greater long-term white flight that is detrimental to interracial exposure. (Rossell, 1978:31; Smylie, 1983; Armor, 1980; Coleman, 1977; Ross, Gratton, and Clarke, 1982; Farley, Wurdock, and Richards, 1980). Moreover, because interracial exposure is limited by the predesegregation percentage white, dividing the districts into those above and below 30 percent minority is a means of controlling for percentage white and thus making the voluntary and mandatory plans comparable on that variable for the purposes of an interrupted time series analysis.

Table 4-1 compares the average percentage white enrollment change for voluntary and mandatory desegregation plans in school districts above and below 30 percent minority. Figure 4-1 illustrates these data for school districts above 30 percent minority, and on the same page, Figure 4-2 illustrates the data for school districts below 30 percent minority. (These data are shown for each school district by category in Appendix 2.) The year of desegregation is indicated by the heading T+0.[1] Each year before

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[1] The implementation year for the voluntary plans is the year that the first magnet programs were established. Most of these school districts, however, had already had majority-to-minority transfer programs for several years prior to that. The implementation year for the mandatory desegregation plans is the year of the major plan. If there is a court-ordered plan, it is usually that year. The only exception to this occurs when a significant plan with mandatory white reassignments precedes a court-ordered plan (as in Stockton). Although this rarely happens, the prior plan would be considered the major plan.

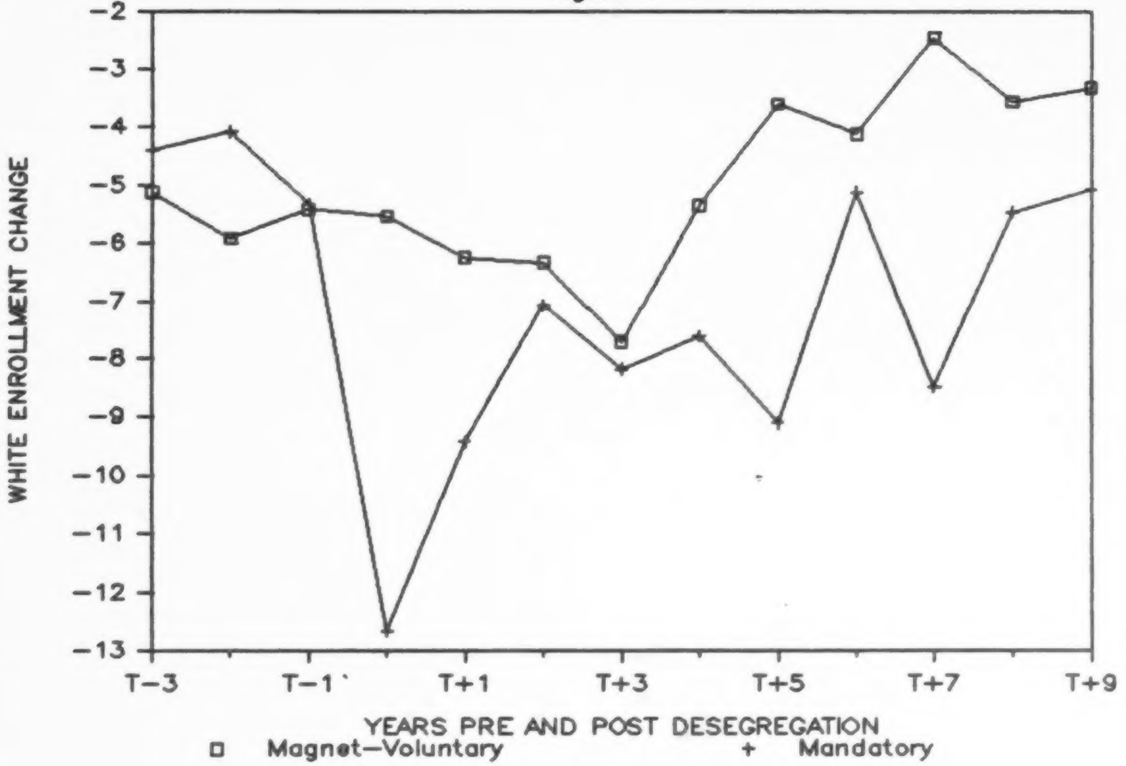
Table 4-1

White Enrollment Change
Voluntary and Mandatory Desegregation Plans

	AVER DESEG. YEAR	% WHITE T-1	N	YEARS PRE AND POST MAJOR DESEGREGATION YEAR												
				T-3	T-2	T-1	DESEG T+0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9
>30% MINORITY																
VOLUNTARY	1975	54.9	7	-5.1	-5.9	-5.4	-5.5	-6.2	-6.3	-7.7	-5.3	-3.6	-4.1	-2.5	-3.6	-3.3
MANDATORY	1974	56.5	5	-4.4	-4.1	-5.3	-12.7	-9.4	-7.1	-8.2	-7.6	-9.1	-5.1	-8.5	-5.5	-5.1
<30% MINORITY																
VOLUNTARY	1969	88.6	2	1.5	-1.6	2.0	-1.4	-3.5	-4.1	-4.1	-4.8	-3.2	-4.2	-5.0	-3.8	-4.0
MANDATORY	1975	83.9	6	-1.5	-2.2	-3.7	-6.9	-6.2	-5.4	-5.3	-5.6	-4.4	-6.4	-2.9	-4.7	-3.2

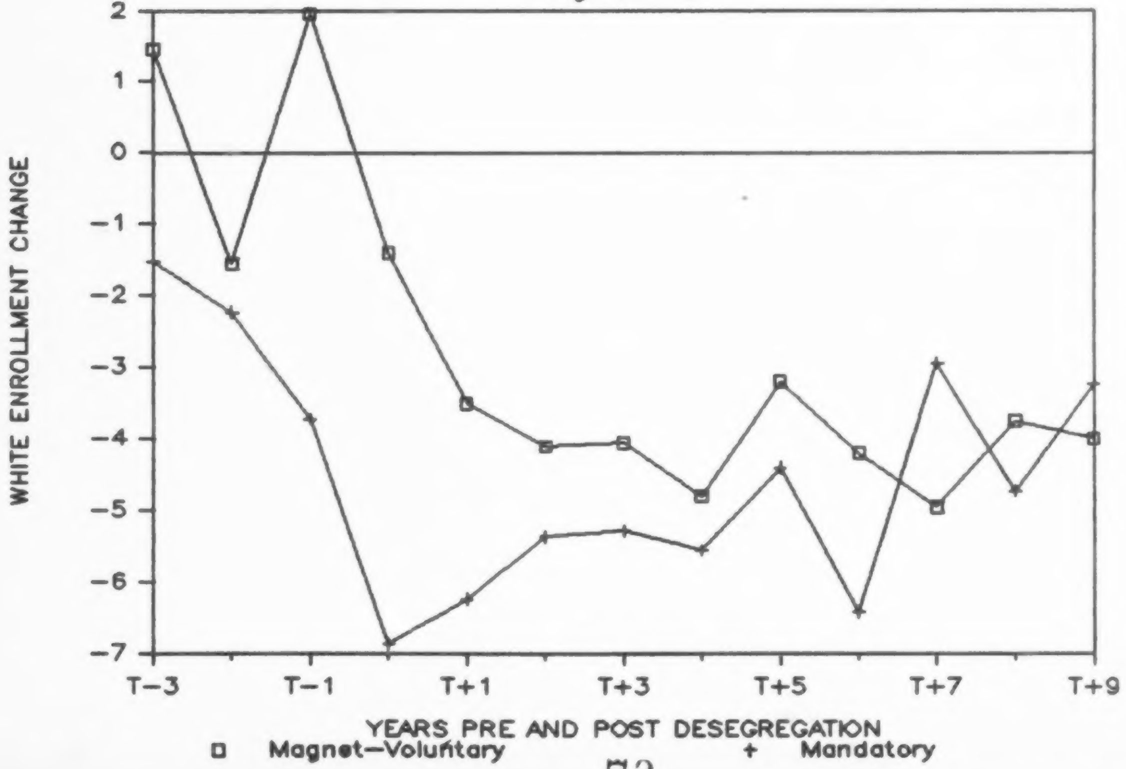
DISTRICTS >30 % MINORITY

Figure 4–1



DISTRICTS <30 % MINORITY

Figure 4–2



desegregation is indicated by T-1, T-2, T-3 and each year after the implementation year of the major desegregation plan is indicated by T+1, T+2 . . . T+9.[2] Because all of the school districts in this sample have magnet schools as a component of their plan, the analysis presented here is a test of the effect of voluntary versus mandatory reassignment of white students. In other words, it tells us whether placing magnet programs within a mandatory plan will make the mandatory plans just as effective in maximizing interracial exposure as a predominantly voluntary plan with magnet schools.

These data indicate that, as expected, the mandatory desegregation plans produce significantly greater white enrollment loss not only in the implementation year (T+0), but in subsequent years, although predesegregation they had less white enrollment decline. In the implementation year, both types of plans produce an increase in the white enrollment decline, but the mandatory plans produce a strikingly greater increase as well as some anticipatory white flight in the year before (T-1).[3]

The total white enrollment loss from the year before desegregation (T-1) to the tenth year of desegregation (T+9) is -36 percent for voluntary plans, and -47 percent for mandatory plans. While school districts with both types of plans tend to recover over time from that implementation year loss with occasional downward fluctuations, the districts greater than 30 percent minority with mandatory plans still have a significantly greater decline for the entire time period shown. The school districts with voluntary plans, on the other hand, begin to incur what appear to be less than normal white enrollment losses beginning with the fifth year (T+4) of desegregation. The mandatory plans in this sample seem not to incur less than normal white enrollment losses during the time period of this study. The total white enrollment loss (T-1 to T+9) for districts greater than 30 percent minority is -37 percent for those with voluntary plans and -55 percent for those with mandatory plans. This is a striking and significant difference.

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[2] Data were estimated for all measures for San Bernardino T+8 and T+9, and San Diego and Des Moines T+9 by averaging the change in the last two years for which there were data. For white enrollment change, T-3 data were also estimated for Cincinnati, Portland, and Dallas from the T-2 white enrollment change.

[3] Although the average anticipatory white flight in this sample is small, it can be quite significant, particularly when the court rulings come down one or more years before implementation of the plan as occurred, for example, in Cleveland.

The pattern for school districts less than 30 percent minority shown in Figure 4-2 is somewhat different. The districts with voluntary plans have, on average, less predesegregation white enrollment loss than the mandatory plans and, except in the year before implementation (T-1) and the year of implementation (T+0), the predesegregation advantage of the districts with voluntary plans is maintained at approximately the same level. This comparison, however, is less reliable than that for school districts above 30 percent minority since there are only two school districts less than 30 percent minority that have voluntary plans -- Portland, Oregon and Tacoma, Washington. It is only in the 8th year of desegregation that the two trend lines cross and remain essentially the same for the next three years.

Hence, a major difference between the two groups of school districts, those above and those below 30 percent minority, is that in the latter, the trend lines of the voluntary and mandatory desegregation plan districts eventually cross around the eighth year, but those for the school districts above 30 percent minority do not cross during the time period of this study. Nevertheless, even in districts less than 30 percent minority, the mandatory plans do not recover the greater white enrollment loss they incurred in the year before implementation (T-1) and the implementation year (T+0). The total white enrollment loss (T-1 to T+9) for districts less than 30 percent minority is -34 percent for those with voluntary plans and -41 percent for those with mandatory plans. Nevertheless, this is still half the disparity between voluntary and mandatory plans found in districts greater than 30 percent minority.

Although these data are interesting, they are an insufficient criterion for selecting alternative desegregation plans. Considering only the costs of school desegregation plans is not only constitutionally unacceptable, but senseless from a policy analytical perspective. If one were to consider only white flight costs, the desegregation alternative chosen would always be "do nothing" since that always produces the least white flight. Therefore, from both a constitutional standard and a policy analytical standard, one must consider both the costs and benefits of desegregation reassignments.

As discussed above, the measure which does this is interracial exposure -- the percentage white in the average minority child's school. It is the proper measure of the effectiveness of a desegregation plan for the reasons discussed in Chapter Two. Table 4-2 compares the interracial exposure of voluntary and mandatory desegregation plans in school districts above and below 30 percent minority.[4] In districts above 30 percent minority, the districts with voluntary plans still have a lower predesegregation percentage white than the mandatory plans, but the difference is now reduced to 1.6 percentage points. In districts

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[4] Because Houston and Montclair dismantled their mandatory reassignment plans (a very limited one in the case of Houston) and replaced them with voluntary plans, their predesegregation data is adjusted slightly to eliminate the effect of the prior mandatory plans implemented in 1970 in Houston and 1969 and 1971 in Montclair. This small adjustment is necessary because the later voluntary plans did not build on them, but replaced them. See Appendix 3b for the adjustment and Appendix 3a for the unadjusted data.

Table 4-2

INTERRACIAL EXPOSURE (Smw) OF VOLUNTARY AND MANDATORY DESEGREGATION PLANS WITH HOUSTON AND MONTCLAIR ADJUSTED PREDESEGREGATION

	AVER DESEG YEAR	% WHITE T-1	N	YEARS PRE AND POST MAJOR DESEGREGATION YEAR												
				T-3	T-2	T-1	DESEG T+0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9
>30% MINORITY																
VOLUNTARY	1975	54.9	7	33.5	33.2	32.8	36.2	37.7	37.6	36.8	36.3	36.5	36.2	35.5	35.0	35.0
MANDATORY	1974	56.5	5	29.5	29.6	29.1	38.0	38.3	38.6	37.0	35.5	34.8	33.5	32.0	30.8	29.4
<30% MINORITY																
VOLUNTARY	1969	88.6	2	60.8	62.5	62.7	68.1	68.1	72.0	73.2	73.3	73.0	73.5	71.9	71.8	70.6
MANDATORY	1975	83.9	6	55.5	56.6	57.0	69.1	70.3	70.4	68.8	68.7	67.2	66.7	65.0	64.0	63.6

below 30 percent minority, the districts with voluntary plans have a percentage white that is four and a half percentage points higher than the mandatory plans.

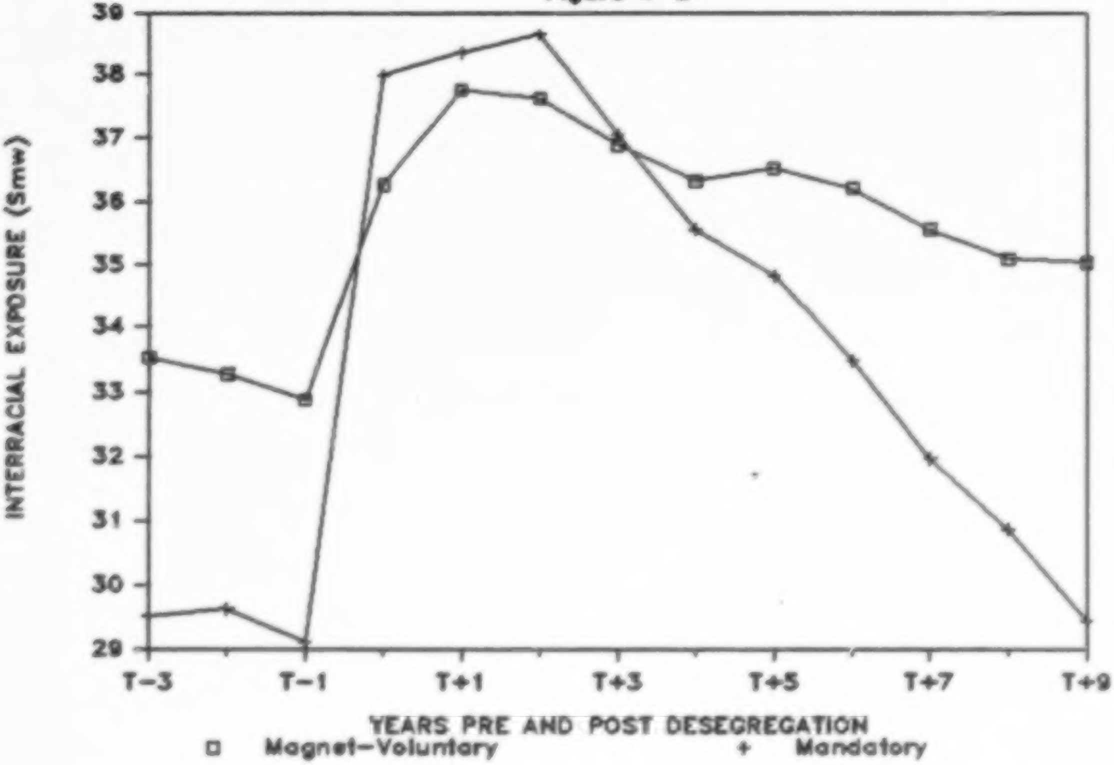
Figure 4-3 shows interracial exposure in school districts above 30 percent minority and Figure 4-4, in school districts less than 30 percent minority. The school districts with voluntary plans had more interracial exposure predesegregation than the mandatory plans prior to the year they implemented their first magnet program (T+0). This explains why the school districts above 30 percent minority with voluntary plans had more predesegregation white enrollment loss than the school districts with mandatory plans. They had more desegregation as well.

As Figure 4-3 illustrates for school districts above 30 percent minority, although the magnet-voluntary plans produce a significant increase in interracial exposure in the implementation year, both the increase and the absolute level of exposure is greater for the mandatory plans. By the fourth year of desegregation (T+3), however, the trend lines meet. By the fifth year (T+4), the districts with voluntary plans surpass the mandatory plans and the gap continues to increase. Although all school districts have decreasing interracial exposure after the implementation year, the trend line of the mandatory plans is much more negative than that of the districts with voluntary plans.

There is a similar pattern for school districts less than 30 percent minority shown in Figure 4-4. Again, the school districts with voluntary plans had greater predesegregation interracial exposure than those with mandatory plans, but both had a large increase with the implementation of their desegregation plans. The districts with voluntary plans surpass the mandatory plans by the third year of desegregation (T+2) in these school districts. As

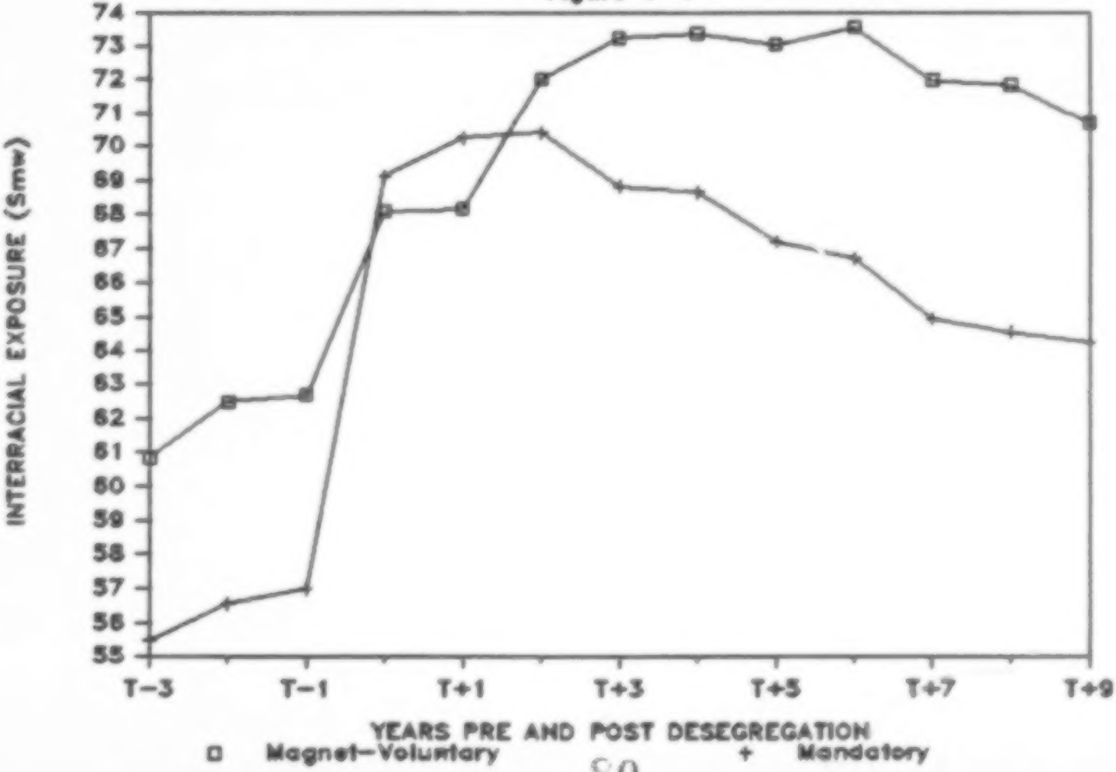
DISTRICTS >30 % MINORITY

Figure 4-3



DISTRICTS <30 % MINORITY

Figure 4-4



with the school districts above 30 percent minority, the gap between the two types of plans increases over time. Therefore, regardless of whether a school district is above or below 30 percent minority, the mandatory plans do better in the implementation year and for a few years after, but the districts with voluntary plans surpass them within two to four years and the gap increases over time.

The implementation superiority of the mandatory plans is the primary reason why Rossell (1979) and Royster, et al. (1979) found the mandatory plans to be more effective desegregation tools. There was on average only one year of postimplementation data at that time.

It must be stressed, however, that in our sample none of the mandatory plans could by any stretch of the imagination be called "failures" or "disasters" as various anti-busing leaders and members of the Reagan Administration's Justice Department have called them. In every single school district with a mandatory desegregation plan in our sample, there is more interracial exposure in the tenth year of desegregation than if no plan at all had been implemented. The predicted level of interracial exposure for the mandatory plans in school districts greater than 30 percent minority in the 10th year is 27.8 in comparison to an actual level of interracial exposure of 29.4, a difference of 1.6 percentage points.[5] The predicted level of interracial exposure for the districts with voluntary plans in school districts greater than

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[5] This was predicted by a linear least squares equation for T-3 to T-1. Since the decline in interracial exposure is undoubtedly greater during most of the post-desegregation period than during the pre-desegregation period as a function of the greater declining white birthrate during the latter period, this method underestimates the effectiveness of all types of plans. It is still useful, however, in comparing plans since the bias will be similar in both cases.

30 percent minority is 30.4 in comparison to an actual level of interracial exposure of 35.0, a difference of 4.6.[6]

In short, the mandatory plans increase interracial exposure by 1.6 over what would be predicted, the districts with voluntary plans by 4.6. Another way of comparing these plans is to look at the difference in the year before desegregation (T-1) in comparison to the difference in the tenth year of desegregation (T+9). For school districts greater than 30 percent minority, the districts with voluntary plans have 3.7 percentage points more interracial exposure T-1, but 5.6 percentage points more interracial exposure T+9. So, both comparisons show the primarily voluntary plans to be slightly superior to the primarily mandatory plans in school districts above 30 percent minority.

There is also a difference between voluntary and mandatory plans in districts above 30 percent minority with regard to change in percentage white. Whereas the districts with voluntary plans had an average predesegregation (T-1) percentage white that was 1.6 percentage points lower than the mandatory plans, by the tenth year of desegregation, the districts with voluntary plans have a percentage white that is 6.1 percentage points higher.

For school districts less than 30 percent minority, the districts with voluntary plans have a predicted interracial exposure of 69.6 in comparison to an actual level of interracial exposure of 70.6, an increase of 1 percentage point. The mandatory plans have a predicted level of interracial exposure of 62.4 in comparison to an actual level of interracial exposure of 64.2, an increase of 1.8 percentage points. In this comparison, the mandatory plans do better. Looking at this another way, the districts with voluntary plans have

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[6] Without adjusting Montclair and Houston's predesegregation data, the predicted level of interracial exposure for the voluntary plans in school districts greater than 30 percent minority is 31.7 in comparison to an actual level of interracial exposure of 35.0, a difference of 3.3 percentage points.

5.7 percentage points more interracial exposure at T-1, but 6.4 percentage points more interracial exposure T+9. Thus, in this comparison, the voluntary plans do better.

The districts less than 30 percent minority with voluntary plans surpass those with mandatory plans in terms of change in percentage white. Whereas the districts with voluntary plans had an average predesegregation percentage white 4.7 percentage points higher than the mandatory plans, by the tenth year of desegregation (T+9) that advantage had increased to 6.3 percentage points.

While the districts with voluntary plans produce more interracial exposure than the mandatory plans, most clearly for school districts above 30 percent minority, an analysis of covariance shows no statistical differences in any of these years, primarily because of the small sample size. Moreover, all types of plans stem the tide of declining interracial exposure which would average about 1 percentage point a year solely as a function of the "normal" declining white enrollment.

Not only do the districts with voluntary plans produce more interracial exposure, the proper criterion for evaluating alternative desegregation plans, but as Table 4-3 and Figures 4-5 and 4-6 indicate, they also produce similar levels of racial imbalance. Although the districts with mandatory plans consistently do better than the districts with voluntary plans in terms of racial balance, the difference between them is fairly small beginning around the third year of desegregation for school districts less than 30 percent minority and around the fourth or fifth year of desegregation for school districts above 30 percent minority. They both produce an average level of racial imbalance between 30 and 35 between the fourth and sixth year of desegregation -- a

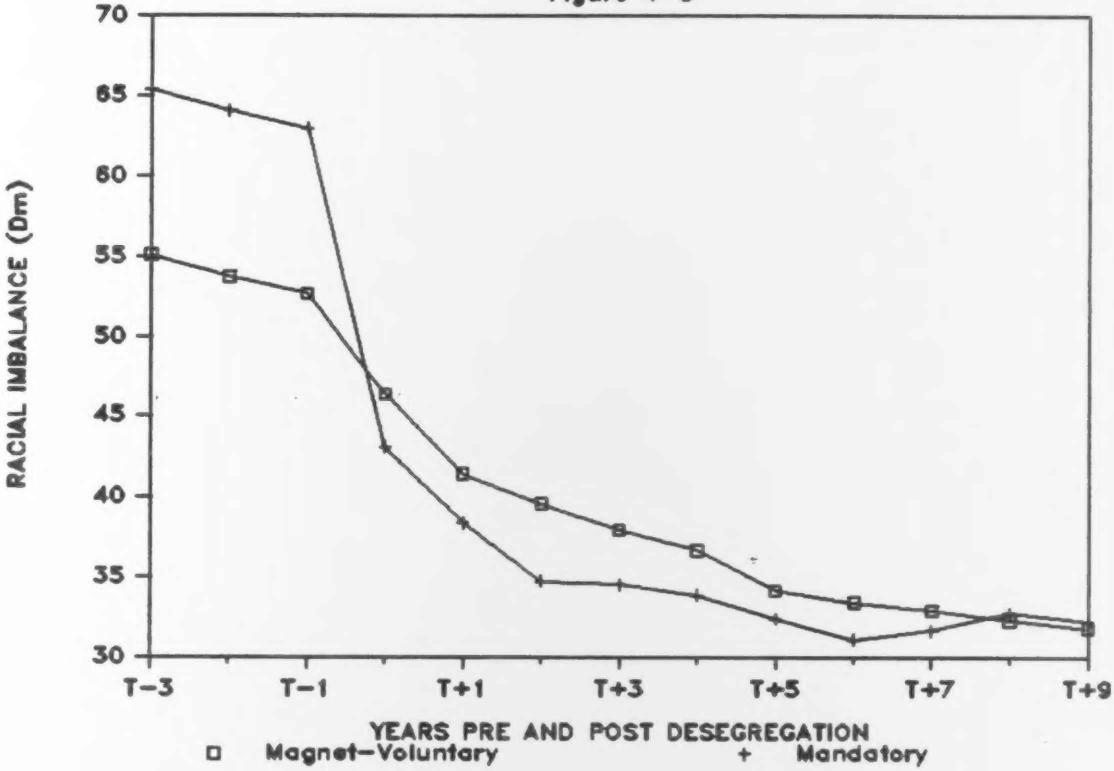
Table 4-3

RACIAL IMBALANCE (Dm) OF VOLUNTARY AND MANDATORY DESEGREGATION PLANS WITH HOUSTON AND MONTCLAIR ADJUSTED PREDESGREGRATION

	AVER DESEG. YEAR	% WHITE T-1	N	YEARS PRE AND POST MAJOR DESEGREGATION YEAR												
				T-3	T-2	T-1	DESEG T+0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9
>30% MINORITY																
VOLUNTARY	1976	54.9	7	55.1	53.7	52.7	46.3	41.3	39.5	37.9	36.6	34.1	33.3	32.9	32.2	31.7
MANDATORY	1974	55.2	5	65.4	64.0	62.9	43.1	38.3	24.7	34.5	33.9	32.4	31.1	31.7	32.7	32.2
<30% MINORITY																
VOLUNTARY	1969	88.3	2	53.0	53.5	52.3	44.7	42.8	36.3	33.4	33.4	33.7	31.6	30.3	29.2	28.9
MANDATORY	1975	83.9	6	55.1	52.7	50.4	35.5	33.9	33.0	31.9	30.9	30.5	29.5	29.5	28.4	27.1

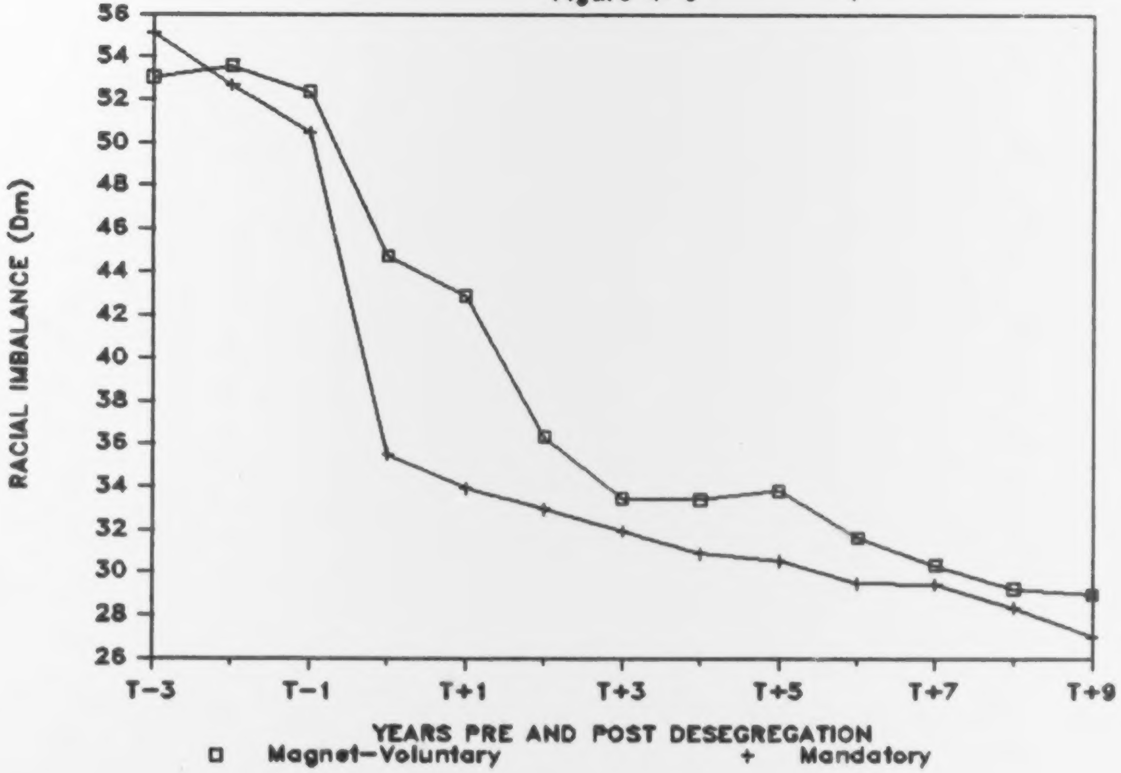
DISTRICTS >30 % MINORITY

Figure 4-5



DISTRICTS <30 % MINORITY

Figure 4-6



level which indicates systemwide desegregation, but allows for court approved deviations.

The fact that the districts with voluntary plans began with more interracial exposure because they had more successful M-to-M programs predesegregation makes it unclear whether there is a self-selection bias. In other words, it is possible that the school districts with successful magnet-voluntary plans might have had more successful magnet-mandatory plans than the plans in our sample.

We think self-selection bias is unlikely in light of other research suggesting higher percentage minority districts have more white flight with mandatory plans than lower percentage minority districts (see e.g. Armor, Rossell, 1986; Coleman, Kelly and Moore, 1975a, 1975b; Ross, Gratton and Clarke, 1982; Farley, Wurdock, and Richards, 1980). Moreover, self-selection bias is less likely for the school districts above 30 percent minority with voluntary plans since all but two, Cincinnati and Montclair, desegregated under court order.

Matched Pairs

Although we cannot conclusively rule it out, we can provide some evidence that suggests that self-selection bias is not a factor in our findings. We do so by comparing four pairs of school districts which have been matched in terms of the extent of interracial exposure predesegregation, the percentage white,[7] the size of the school district and the extent of racial balance ultimately produced by the plans.[8] These eight school districts represent all the school districts out of the 20 that could be matched in this way.

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[7] Controlling for the predesegregation percentage white is necessary because interracial exposure is a function not only of desegregation efforts, but of prior racial proportions. A school district with a lower percentage white before desegregation is at a disadvantage when comparing it to a school district with a higher percentage white before desegregation unless one adjusts for that difference.

Two pairs of school districts are above 30% minority predesegregation (Boston-Milwaukee and Buffalo-Dayton) and two pairs are below 30% minority (St. Paul-Tacoma and Montgomery Co.-Portland). In three of the four pairs, the district with the voluntary plan had much less interracial exposure predesegregation than the district with the mandatory plan.

The first pair of cities is Boston and Milwaukee. Boston desegregated in 1974 with a mandatory desegregation plan. In 1975 the plan was expanded and 22 magnet schools were added as educational options. Milwaukee desegregated in 1976 with a magnet-voluntary desegregation plan that included 40 magnet school programs. Both are large school districts (Boston was 93,000 and Milwaukee 114,000 predesegregation) with a similar predesegregation percentage white, and with city-suburban minority busing programs funded by the state which are roughly equal in size, although Boston's has almost 1,000 more minority students in its program.

As Table 4-4 shows, Boston was 57 percent white in 1973, the year before desegregation, while Milwaukee was 60 percent white the year before desegregation. The level of interracial exposure (Smw) predesegregation was identical in both cities (24), but for most of the predesegregation period, Milwaukee had less. Unlike most districts with voluntary plans, Milwaukee surpassed Boston's interracial exposure almost immediately. By the tenth year of each plan, as a result of the consistently greater white flight from the Boston plan (-70.6 percent versus -51.8 percent over the ten year post-desegregation period), Boston's interracial exposure had declined to 22.8 while

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[8] Similar levels of racial balance represent similar levels of comprehensiveness of a plan. An index of dissimilarity in the 30's is a comprehensive, system-wide plan.

Table 4-4

Pre and Post Desegregation Changes in White Enrollment, Interracial Exposure (Smw) and Racial Imbalance (Dm) in Boston and Milwaukee

	Boston (Mand. 1974)					Milwaukee (Vol. 1976)				
Years Pre & Post Deseg.	Year	% White	% White Enroll Change	Smw	Dm	Year	% White	% White Enroll Change	Smw	Dm
T-9						1967	73.3		21.3	81.0
T-8						1968	73.0	1.4	23.0	79.0
T-7	1967	72.7		33.5	68.9	1969	70.6	-1.7	20.8	79.8
T-6	1968	68.5	-3.7	29.6	70.7	1970	70.3	-0.5	22.8	78.5
T-5	1969	66.0	-2.9	27.1	71.4	1971	67.8	-4.0	21.6	76.8
T-4	1970	64.1	-1.0	25.7	72.4	1972	65.9	-5.5	21.7	76.1
T-3	1971	61.5	-4.2	23.8	73.4	1973	64.0	-6.6	23.2	73.6
T-2	1972	59.6	-3.3	24.9	70.8	1974	61.6	-7.4	23.9	72.0
T-1	1973	57.2	-6.6	23.8	70.4	1975	60.1	-6.0	24.2	71.1
T+0 DESEG	1974	52.3	-16.2	33.1	50.6	DESEG 1976	56.3	-10.8	35.1	51.3
T+1	1975	47.0	-16.6	39.7	30.9	1977	52.8	-12.7	39.4	39.4
T+2	1976	44.0	-13.3	36.5	32.8	1978	50.6	-9.5	39.1	36.9
T+3	1977	41.6	-5.9	35.5	29.7	1979	47.2	-11.1	38.6	33.0
T+4	1978	39.6	-7.6	33.7	29.2	1980	45.3	-7.4	37.2	32.8
T+5	1979	37.1	-14.1	31.1	30.9	1981	43.3	-6.0	35.8	33.1
T+6	1980	35.2	-2.4	29.6	30.8	1982	42.4	-2.9	35.4	32.5
T+7	1981	32.3	-17.7	27.0	31.4	1983	40.0	-4.8	33.6	32.7
T+8	1982	29.8	-11.7	25.2	31.6	1984	37.9	-3.1	32.4	31.5
T+9	1983*	27.9	-8.5	22.8	32.6	1985	36.6	-1.4	31.3	31.4
T+10	1984*	27.7	2.8	22.5	33.8					
T+11	1985*	27.4	0.9	22.1	35.9					
10 yr. Diff. **		-29.3	-70.6	-1.0	-37.8		-23.5	-51.8	7.1	-39.7

*Smw and % white reduced by .8 to reflect the difference between the measures with the all-white segregated kindergartens included and the lower index without these kindergartens.

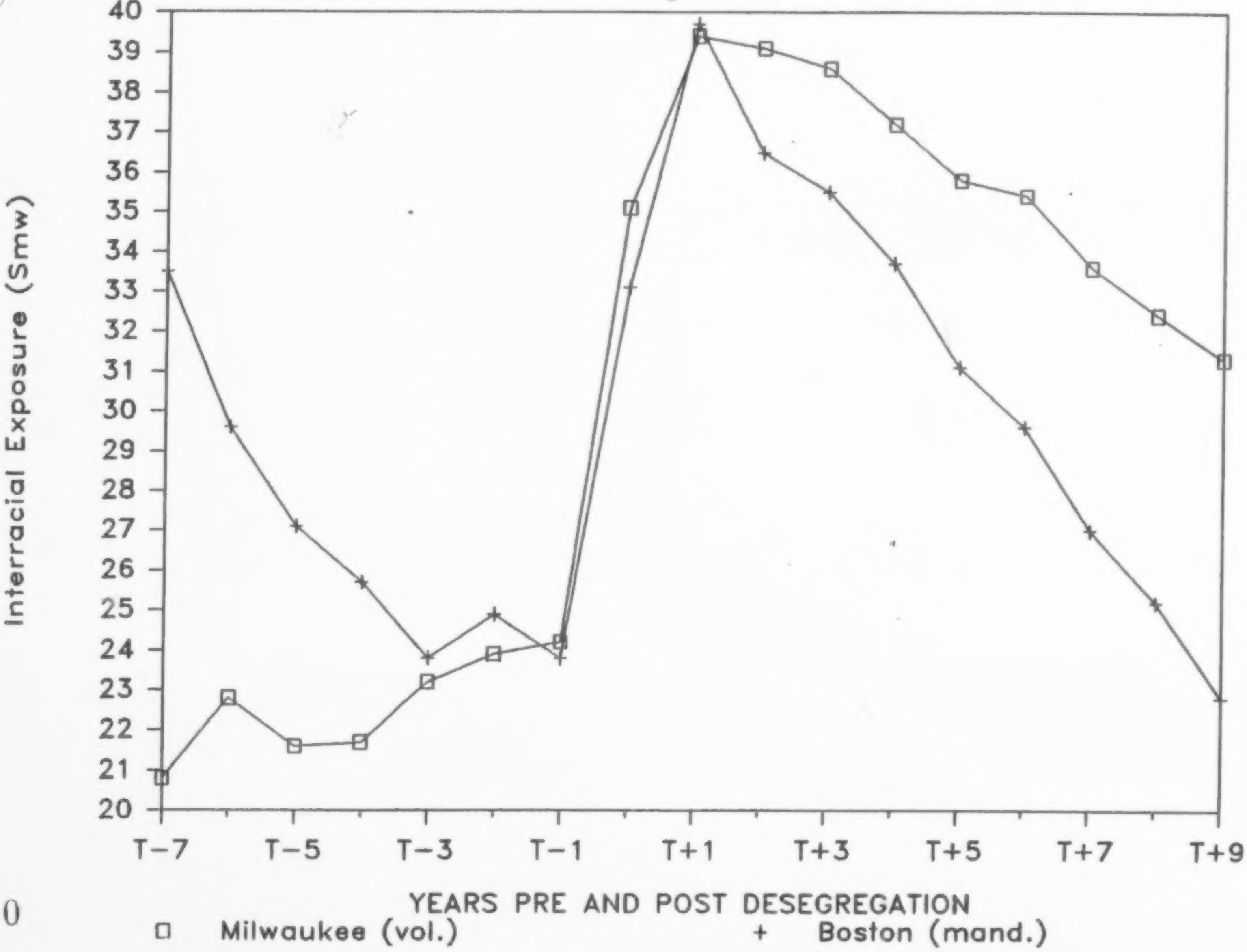
**From T-1 to T+9

Smw: Interracial exposure or the percentage white in the average minority child's school

Dm: Racial imbalance of whites and minorities

Boston and Milwaukee

Figure 4-7



Milwaukee had 31.3 percent white in the average minority child's school. Boston's interracial exposure would decrease even more if we could equalize the minority transfers to the suburbs between the two districts. Hence, as Figure 4-7 illustrates, Milwaukee's magnet-voluntary desegregation plan consistently produced greater interracial exposure throughout the entire post-desegregation time period, although it began with much less. The pre-post desegregation change in interracial exposure (Smw) was a 7 percent gain in Milwaukee (voluntary) in comparison to a 1 percent decline in Boston (mandatory) over the same time period.[9]

Table 4-5 compares two more matched school districts. Both desegregated in 1976 under court order, Dayton with a mandatory plan and Buffalo with a magnet-voluntary plan. Both Dayton and Buffalo began with a similar predesegregation percentage white (51 and 49 percent respectively), and both are medium sized, northeastern urban school districts. Buffalo's predesegregation enrollment was 57,000 while Dayton's predesegregation enrollment was 45,000. Both school districts had similar predesegregation levels of racial imbalance, although Buffalo had more interracial exposure

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[9] It should be noted that in both districts plaintiffs, unhappy over what they see as a greater burden on their part, have petitioned the court for plan changes. In Boston, the plaintiffs have been petitioning the court for at least five years to have the mandatory plan dismantled and replaced with a voluntary plan because minorities are being bused from minority schools in their own neighborhood to minority schools in white neighborhoods. (There are few whites left.) When the court failed to grant them relief, groups in Roxbury, the minority community in Boston, asked to secede from the city citing the busing of black children across the city to attend largely black schools as one of their grievances ("Keeping Boston Whole" Boston Globe, September 25, 1987, page 20). The proposition was defeated in the November 1986 elections. In Milwaukee, plaintiffs have complained that because minority children choose "other neighborhood" schools at higher rates than white children, the burden is on them. As a result, they brought suit against the surrounding suburbs in order to include more whites in the desegregation plan and thus equalize the burden. Thus, the Boston plaintiffs are demanding as relief, the very situation the Milwaukee plaintiffs are terming burdensome. (See Bennett, 1986 for a counter argument to the burden issue in a voluntary plan.)

Table 4-5

Pre and Post Desegregation Changes in White Enrollment, Interracial Exposure and Racial Imbalance in Dayton and Buffalo

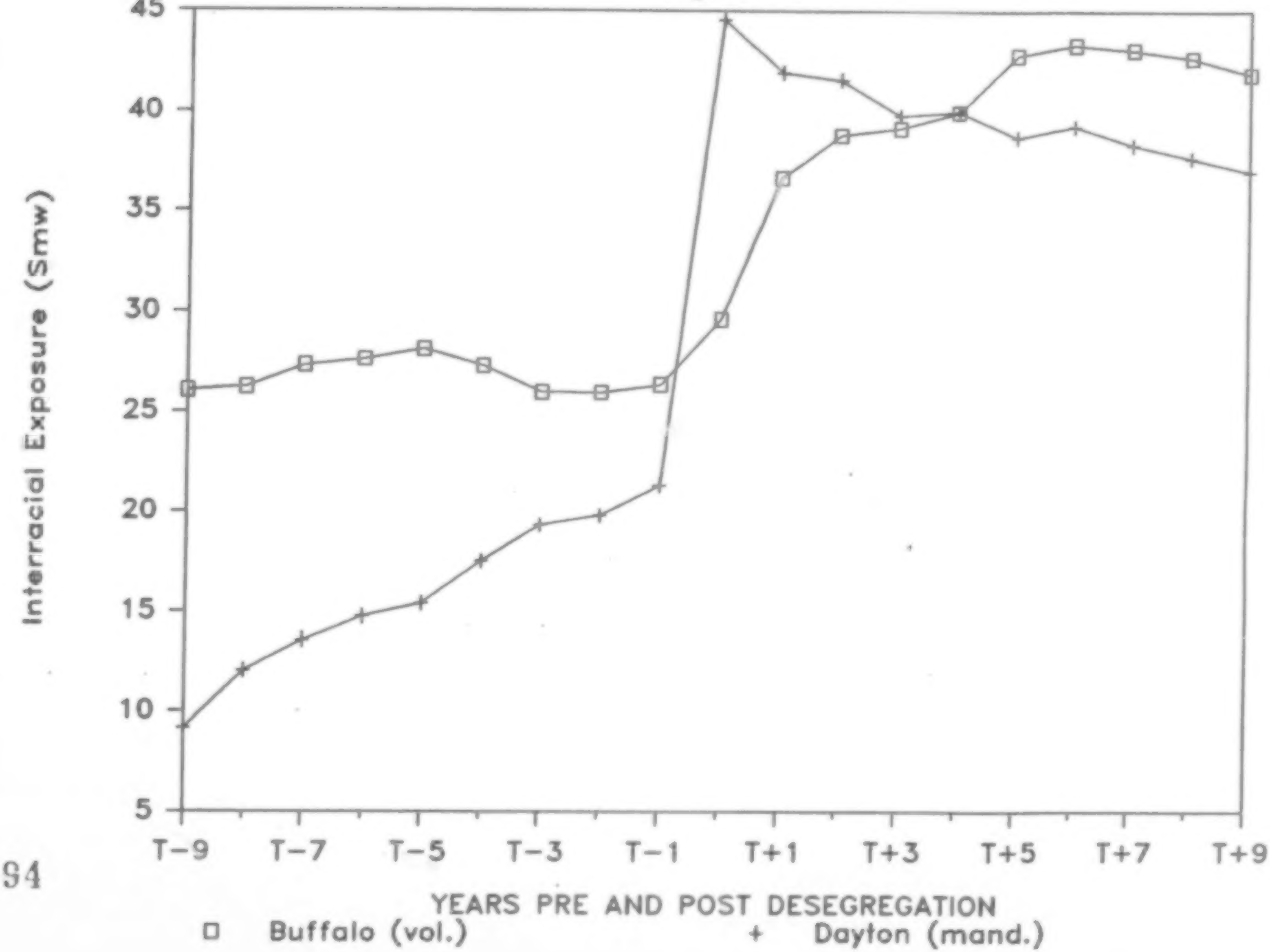
Years Pre & Post Deseg.	Dayton (Mand.)					Buffalo (Vol.)				
	Year	% White	% White Enroll Change	Smw	Dm	Year	% White	% White Enroll Change	Smw	Dm
T-9	1967	65.8		9.2	91.0	1967	63.4		26.1	68.9
T-8	1968	61.5	-11.7	12.0	86.3	1968	60.9	-2.1	26.3	67.2
T-7	1969	60.4	-3.8	13.5	84.6	1969	59.6	-3.2	27.3	65.5
T-6	1970	59.0	-5.0	14.8	82.5	1970	58.3	-3.6	27.6	64.6
T-5	1971	57.0	-6.2	15.4	80.8	1971	57.1	-5.1	28.1	63.1
T-4	1972	55.0	-8.5	17.5	78.1	1972	54.9	-9.4	27.3	63.0
T-3	1973	53.3	-9.0	19.3	74.3	1973	53.5	-7.8	26.0	63.5
T-2	1974	52.1	-6.2	19.8	71.8	1974	52.3	-5.3	26.0	62.7
T-1	1975	51.1	-5.9	21.3	69.2	1975	49.2	-8.7	26.4	61.0
T+0	DESEG1976	47.7	-17.5	44.6	22.1	DESEG1976	50.0	-2.6	29.6	55.3
T+1	1977	45.7	-6.0	41.9	24.5	1977	49.8	-4.6	36.7	42.5
T+2	1978	44.8	-8.4	41.6	23.0	1978	48.1	-4.9	38.8	35.4
T+3	1979	43.5	-6.3	39.8	25.5	1979	46.9	-8.0	39.2	31.6
T+4	1980	42.7	-5.9	40.0	21.4	1980	46.6	-1.8	40.0	28.4
T+5	1981	42.0	-3.8	38.7	24.1	1981	46.2	-2.0	42.8	18.7
T+6	1982	41.3	-4.7	39.3	18.8	1982	45.8	-2.5	43.3	17.5
T+7	1983	40.5	-5.4	38.3	19.3	1983	45.5	0.6	43.1	16.6
T+8	1984	39.9	-3.3	37.7	20.2	1984	44.9	-4.3	42.7	15.9
T+9	1985	39.2	-1.0	37.0	21.0	1985	44.1	-2.4	41.9	16.9
10 YR. DIFF.*		-11.8	-48.0	15.7	-48.2		-5.1	-28.3	15.5	-44.1

* From T-1 to T+9

Smw= Percent white in the average minority child's school.
Dm= Racial imbalance of whites and minorities.

Buffalo and Dayton

Figure 4-8



predesegregation (26 versus 21 in Dayton). Dayton's mandatory reassignment plan produced an implementation year level of interracial exposure of 44.6, more than 1/4 higher than the 29.6 produced by Buffalo's magnet school plan. By 1980, four years later, the two school districts had identical levels of interracial exposure. By 1981, as graphically illustrated in Figure 4-8, the Buffalo magnet school plan had surpassed the Dayton mandatory desegregation plan's interracial exposure by four percentage points and the gap continues to increase over time. The trend also indicates that Buffalo would have surpassed Dayton if it had not initiated any mandatory reassignments at all in 1981.[10] The ultimate pre-post desegregation change in interracial exposure (Smw) was virtually identical, however, in the two districts, although Buffalo's absolute level surpassed Dayton's by five percentage points.

In Table 4-6 and Figure 4-9, we compare another matched pair of school districts -- St. Paul, Minnesota which desegregated in 1973 with a mandatory reassignment plan and Tacoma, Washington which desegregated in 1968 with a magnet-voluntary plan. Both are medium-sized northern school districts -- St. Paul enrolled 48,000 and Tacoma 37,000 students predesegregation. The predesegregation percentage white in St. Paul was 88.4 while in Tacoma it was 88.6. The level of interracial exposure (Smw) was much higher in St. Paul (mandatory) than in Tacoma (voluntary) for the entire predesegregation period. Although Tacoma began with both a lower predesegregation and implementation year level of interracial exposure than St. Paul, it surpassed St. Paul's mandatory plan by the third year. The gap continues to increase over time so

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[10] As we noted in Chapter 3, although technically we should have adjusted the post 1981 trend for the effect of the mandatory reassignments, that would have increased interracial exposure rather than reduced it, enhancing the superiority of the voluntary plans. (The addition of mandatory reassignments only increased interracial exposure by 2.8 points -- less than the annual gains under the voluntary plan.) We have chosen not to give the voluntary plans an additional advantage.

Table 4-6

Pre and Post Desegregation Changes in White Enrollment,
Interracial Exposure (Smw) and Racial Imbalance (Dm)
in St. Paul and Tacoma

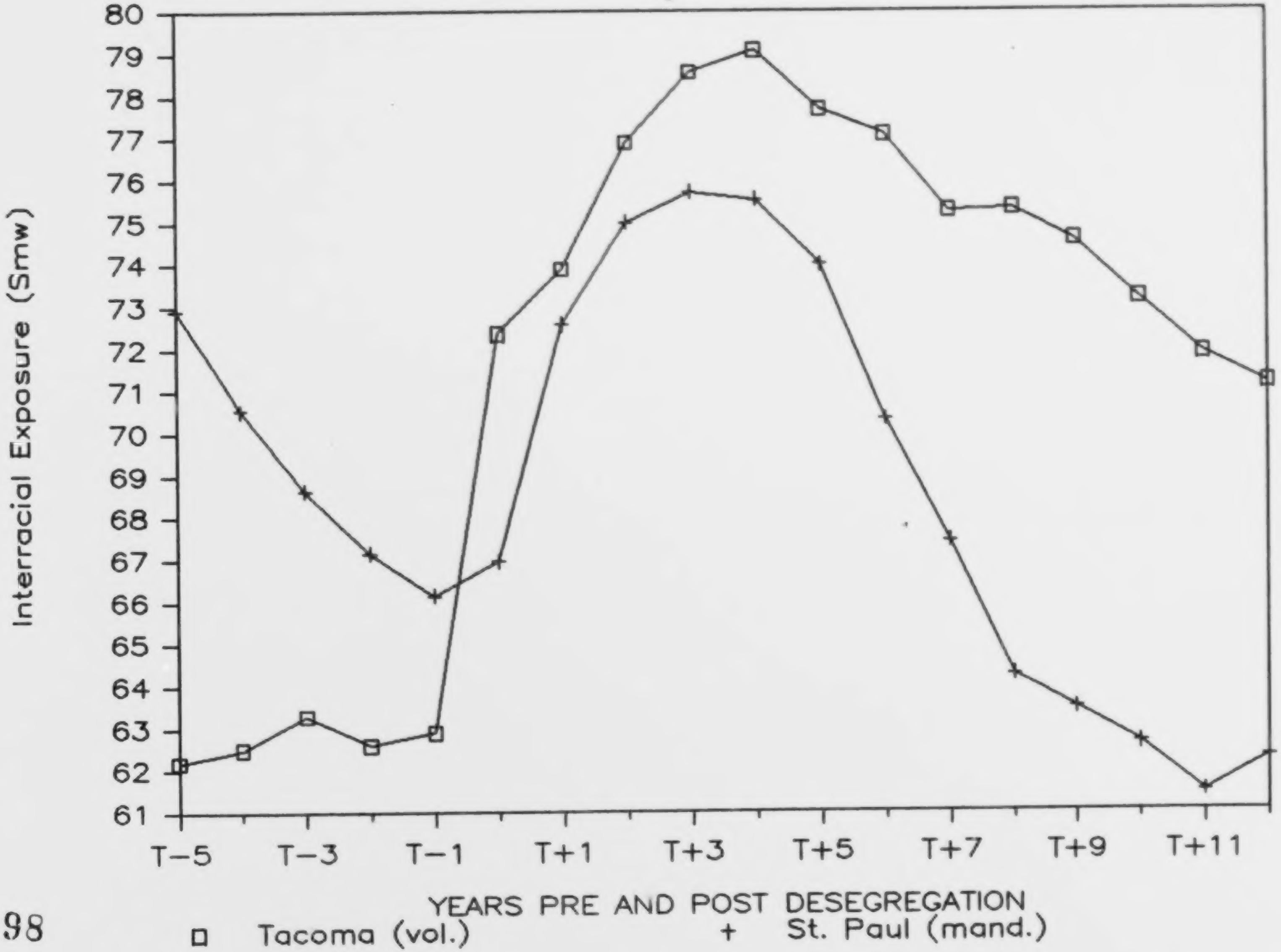
	St. Paul (Mand.)					Tacoma (Vol.)				
Years Pre & Post Deseg.	Year	% White	% White Enroll Change	Smw	Dm	Year	% White	% White Enroll Change	Smw	Dm
T-6	1967	90.8		72.7	51.7					
T-5	1968	90.7	3.0	72.9	50.4	1963	90.2		62.2	57.4
T-4	1969	89.7	-4.9	70.6	51.3	1964	89.6	-0.1	62.5	54.3
T-3	1970	89.2	2.2	68.7	51.3	1965	89.0	4.0	63.3	50.3
T-2	1971	88.9	-0.1	67.2	50.9	1966	88.8	-2.0	62.6	53.5
T-1	1972	88.4	-3.7	66.2	49.7	1967	88.6	5.5	62.9	54.3
T+0	DESEG1973	87.6	-5.3	67.0	48.2	DESEG1968	87.2	0.0	72.4	38.2
T+1	1974	86.5	-12.2	72.6	42.9	1969	86.6	-1.4	73.9	34.5
T+2	1975	86.3	0.2	75.0	40.8	1970	85.7	-1.4	76.9	29.1
T+3	1976	83.9	-10.0	75.7	32.9	1971	84.8	-3.6	78.6	27.0
T+4	1977	82.5	-6.7	75.5	30.1	1972	84.7	-4.6	79.1	26.6
T+5	1978	80.4	-8.3	74.0	29.0	1973	83.9	-2.3	77.7	28.9
T+6	1979	77.9	-5.7	70.3	30.1	1974	83.0	-3.2	77.1	28.2
T+7	1980	74.3	-6.2	67.4	26.9	1975	81.3	-3.7	75.3	26.9
T+8	1981	71.0	-6.7	64.3	25.8	1976	81.0	-2.4	75.3	26.7
T+9	1982	68.8	-5.4	63.5	24.4	1977	80.0	-3.0	74.6	25.6
T+10	1983	68.0	-1.9	62.6	24.2	1978	78.6	-6.6	73.2	25.5
T+11	1984	66.8	-1.7	61.5	24.6	1979	77.3	-4.3	71.9	25.6
T+12	1985	65.8	1.2	62.3	19.9	1980	75.6	-4.4	71.2	23.7
T+13						1981	74.3	-2.7	70.2	21.8
T+14						1982	73.5	-1.6	69.4	22.2
T+15						1983	72.7	-1.1	68.8	21.1
T+16						1984	71.6	-1.6	67.8	21.3
T+17						1985	71.2	1.0	67.2	21.6
13-Year Diff.*		-22.6	-51.2	-3.9	-29.8		-13.0	-34.3	8.3	-30.6

*From T-1 to T+12

Smw = Percent white in the average minority child's school.
Dm = Racial imbalance of whites and minorities.

St. Paul and Tacoma

Figure 4–9



that by the thirteenth year of desegregation (T+12), Tacoma is almost nine percentage points ahead of St. Paul. The ultimate pre-post change in interracial exposure was 8.3 in Tacoma (voluntary), but -3.9 in St. Paul (mandatory).

In Table 4-7 and Figure 4-10, we compare another matched pair of school districts -- Portland, Oregon and Montgomery County, Maryland. Montgomery County desegregated in 1976 with a mandatory reassignment plan that paired 12 schools. This was expanded in 1977 to include additional schools so that today virtually all imbalanced minority schools are affected. Portland desegregated in 1968 with a magnet-voluntary plan. Although Montgomery County is much larger than Portland -- 122,000 to Portland's 78,000, their predesegregation percentage white is almost identical -- 87.4 and 88.6 respectively. Furthermore, despite the fact that Montgomery County had much more predesegregation interracial exposure than Portland, Portland's voluntary plan had surpassed Montgomery County's mandatory plan by the sixth year of desegregation (T+5). The pre-post change in interracial exposure in Portland (voluntary) was 4.3; in Montgomery County (mandatory), it was -16.5.

These matched pair analyses suggest that even when districts with voluntary plans begin with less predesegregation interracial exposure and a lower predesegregation percentage white, they may ultimately surpass the mandatory plans in the absolute level of interracial exposure and change in interracial exposure. They will probably also produce similar levels of racial balance.

In Table 4-8, we present a pooled cross-sectional time series analysis of the extent of postimplementation interracial exposure[11] controlling for whether

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[11] The postimplementation time period is T+0 to T+9 and no missing data is filled in as in the interrupted time series. A pooled, cross-sectional analysis increases the N by treating each year as a separate case.

Table 4-7

Pre and Post Desegregation Changes in White Enrollment Interracial Exposure (Smw) and Racial Imbalance (Dm) in Montgomery Co. and Portland

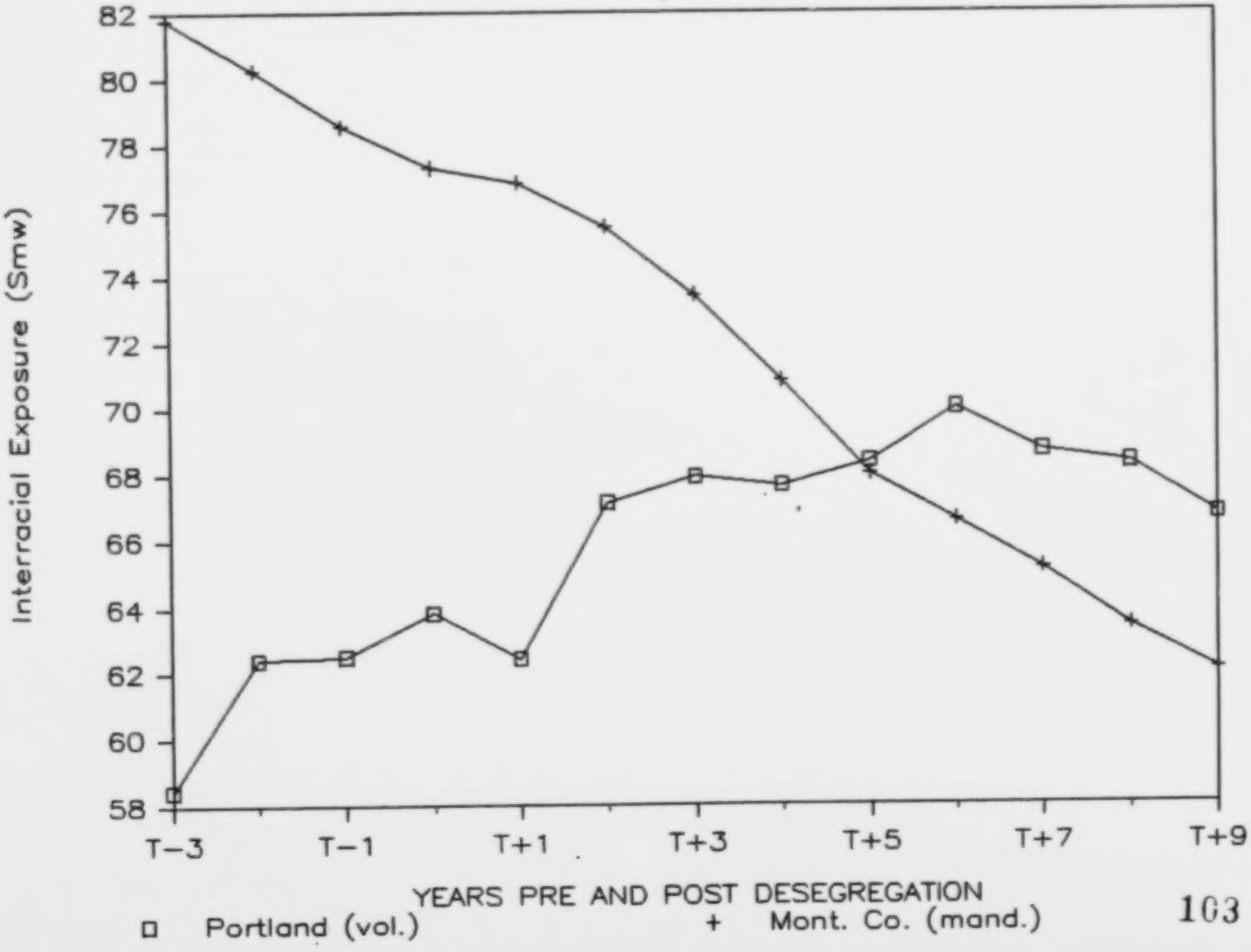
	Montgomery Co. (Mand.)					Portland (Vol.)				
Years Pre & Post Deseg.	Year	% White	% White Enroll Change	Smw	Dm	Year	% White	% White Enroll Change	Smw	Dm
T-9	1967	96.3		85.8	59.5					
T-8	1968	93.6	1.7	88.0	34.9					
T-7	1969	92.7	2.0	86.9	33.8					
T-6	1970	91.6	-0.9	84.7	35.0					
T-5	1971	90.9	-0.1	84.4	31.0					
T-4	1972	89.8	-0.8	84.0	29.3					
T-3	1973	89.5	-0.7	81.8	31.6	1967	89.4		58.4	55.8
T-2	1974	88.7	-2.4	80.3	30.9	1968	89.5	-1.1	62.4	53.6
T-1	1975	87.4	-3.1	78.6	30.6	1969	88.6	-1.7	62.5	50.5
T+0	DESEG1976	83.5	-8.7	77.3	25.3	DESEG1970	88.0	-2.7	63.8	51.3
T+1	1977	82.8	-4.4	76.9	25.0	1971	87.1	-5.6	62.4	51.2
T+2	1978	82.0	-5.6	75.5	25.7	1972	86.0	-6.7	67.2	43.6
T+3	1979	80.4	-6.4	73.4	26.4	1973	85.0	-4.5	67.9	39.9
T+4	1980	78.3	-6.1	70.9	27.3	1974	84.4	-5.0	67.7	40.3
T+5	1981	76.2	-5.9	68.0	28.2	1975	82.9	-4.1	68.4	38.7
T+6	1982	74.5	-5.5	66.6	28.1	1976	81.9	-5.2	70.0	35.1
T+7	1983	73.0	-3.4	65.2	28.6	1977	79.3	-6.2	68.7	32.4
T+8	1984	71.3	-1.6	63.4	28.7	1978	78.5	-5.1	68.3	31.9
T+9	1985	69.9	-0.7	62.0	29.2	1979	76.8	-4.9	66.8	32.4
T+10						1980	75.5	-3.1	64.3	33.9
T+11						1981	72.4	-5.1	61.5	33.5
T+12						1982	73.1	-1.5	61.6	35.0
T+13						1983	73.8	0.4	62.5	35.3
T+14						1984	73.7	0.3	61.9	36.5
T+15						1985	73.7	-0.1	61.8	36.3
10-Year Diff.*		-17.5	-39.2	-16.5	-1.37		-11.8	-40.2	4.27	-18.0

*From T-1 to T+9

Smw= Percent white in the average minority child's school.
Dm= Racial imbalance of whites and minorities.

Montgomery Co. and Portland

Figure 4-10



a plan is voluntary, the predesegregation percentage white, interracial exposure and white enrollment change, as well as total enrollment, the year of the plan, the city or county educational level, the time period (0,1,2,3...9) and an interaction variable, time period times voluntary.[12] This equation shows that voluntary desegregation plans produce significantly more interracial exposure over time than mandatory desegregation plans.[13]

In addition, postimplementation interracial exposure is positively related to the predesegregation percentage white, predesegregation percentage white enrollment change, and the year the desegregation plan was implemented. Postimplementation interracial exposure is negatively related to predesegregation interracial exposure (although not significantly), total district enrollment, and the city or county educational level. All of these relationships conform to logic and are similar to those we found in predicting magnet school percentage white. This equation explains almost 91 percent of the variance in postimplementation interracial exposure.

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[12] To reiterate, the first column represents the average for that variable in this sample. The r represents the simple correlation between percentage white and each of the independent variables on the left. The b represents the change in percentage white for a one unit change in each of the variables listed on the left, holding all the other variables constant. The Beta is a standardized regression coefficient which tells us the relative strength of each of these variables in predicting percentage white, in standard deviation units, holding all other variables constant. The standard error of the b is the variability in the b regression coefficient which might be found in subsequent samples drawn from the same sample. If the standard error of the b (SE b) is larger than the b, we can have no confidence in the sign of the coefficient (that is, whether it is a positive or negative relationship). If the b coefficient is 1.95 times the standard error of the b, the relationship between that variable and a magnet school's percentage white is significant at the .05 level or better using a two-tailed test.

[13] The b coefficient for the main effects and the interaction effects can only be interpreted by solving the equation for those variables. For example, a voluntary plan at T+9, holding all other variables constant, would be expected to have a level of interracial exposure 5.4 percentage points above that of a mandatory plan. This is determined by multiplying 9 times the coefficient for time x voluntary (.983) and then adding that amount (8.847) to the coefficient for a voluntary plan (-3.473).

TABLE 4-8

POSTIMPLEMENTATION INTERRACIAL EXPOSURE (Smw) WITH SCHOOL DISTRICT AND PLAN CHARACTERISTICS

	AVERAGE	r	b	BETA	SE b
SMW POSTIMPLEMENTATION	48.624				
VOLUNTARY	0.441	-0.16	-3.473 **	-0.09	1.673
PERCENTAGE WHITE T-1	68.725	0.88 *	1.092 *	0.89	0.058
SMW T-2	42.369	0.82 *	-0.064	-0.07	0.050
WHITE ENROLLMENT CHANGE T-2	-0.042	0.43 *	165.143 *	0.27	30.389
ENROLLMENT	66105.492	-0.45 *	-8.25e-5 *	-0.20	1.10e-5
YEAR OF PLAN	74.118	-0.04	2.761 *	0.39	0.294
CITY/COUNTY EDUC. 1970	12.550	0.13 **	-0.569 *	-0.15	0.110
TIME	4.390	-0.09	-1.058 *	-0.16	0.204
TIME x VOLUNTARY	1.897	-0.12	0.983 *	0.14	0.311

CONSTANT	-203.36
r2	0.906
df	185

* Significant at .001 level or better.
** Significant at .05 level or better.

The equation is also quite robust. The coefficients change little when the data are analyzed without the predesegregation adjustments to Montclair and Houston,[14] when the entire postimplementation time period is analyzed, with its attendant missing data,[15] and when Buffalo's postdesegregation interracial exposure is frozen at the 1980 (pre-mandatory reassignments) level.[16]

The analysis presented so far thus indicates that primarily voluntary plans do produce significantly greater interracial exposure than mandatory plans over time. Although this finding contradicts several decades of school desegregation research, the voluntary plans we analyze in this report are qualitatively different from the old freedom of choice plans or one-way M to M programs. Moreover, as white attitudes have changed, we would expect the success of magnet-voluntary plans to change.

Dismantling Mandatory Plans

There are seven school districts in the 119 school district sample which have dismantled mandatory desegregation plans and replaced them with voluntary plans during the time period of this study. They are Montclair, Houston, Rochester, Cambridge, Los Angeles, Tulsa, and Oklahoma City. We have complete data for Montclair, Houston, Los Angeles and Cambridge and almost complete data for Oklahoma City.

As Table 4-9 indicates, the Montclair magnet-voluntary desegregation plan in which every elementary school is a magnet school and all attendance zones

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[14] The b coefficient for voluntary is -1.061 and for time x voluntary .947.

[15] The b coefficient for voluntary is -3.286 and for time x voluntary .853.

[16] The b coefficient for voluntary is -3.050 and for time x voluntary is .894.

Table 4-9

Montclair
Enrollment and Segregation Indices Pre and Post Dismantling of Mandatory Plan

			INTERRACIAL EXPOSURE		RACIAL IMBALANCE	
	White Enrollment	% WE Change	Actual Smw	Predicted Smw	Actual Dm	Predicted Dm
1967	4977		49.6		33.7	
1968	5039	1.2	48.9		32.6	
1969	5161	2.4	55.3		28.8	
1970	4771	-7.6	49.2		30.9	
		1971	MANDATORY DESEGREGATION			
1971	4753	-0.4	53.4		24.4	
1972	4341	-8.7	57.5		12.9	
1973	4148	-4.4	56.6		13.1	
1974	4003	-3.5	55.8		13.1	
1975	3710	-7.3	54.4		14.5	
1976	3641	-1.9	55.3		12.3	
		1977	MAGNET-VOLUNTARY			
1977	3579	-1.7	55.1	54.0	8.0	13.2
1978	3465	-3.2	54.8	53.3	6.1	13.3
1979	3331	-3.9	54.4	52.7	6.7	13.3
1980	3190	-4.2	53.2	52.1	5.4	13.3
1981	3090	-3.1	50.8	51.4	8.2	13.3
1982	3073	-0.6	51.4	50.8	5.5	13.3
1983	2869	-6.6	51.0	50.1	4.8	13.4
1984	2800	-2.4	51.4	49.5	3.4	13.4
1985	2535	-9.5	51.7	48.9	3.9	13.4
CHANGE DURING MAND. (6 Years)						
1970-76	-1130	-23.68	6.18		-18.56	
CHANGE DURING VOL. (6 Years)						
1976-1982	-568	-15.60	-3.9		-6.8	
CHANGE SINCE VOL.						
1976-1985	-1106	-30.38	-3.63		-8.46	

are eliminated, continued the trend of decreasing racial imbalance begun with the mandatory desegregation plan implemented in 1969 and 1971. Moreover, contrary to the trend exhibited with mandatory plans in school districts greater than 50% minority, the Montclair school district has had no decline in interracial exposure since 1982. In short, the magnet-voluntary plan not only maintained the desegregation achieved by the prior mandatory plans, but increased it.

The Houston school district was 60 percent minority the year it dismantled its mandatory plan and implemented its magnet-voluntary plan. Although the mandatory plan was limited, it was about average by the standards of predominantly minority school districts, reassigning less than 6 percent of the white students and increasing interracial exposure by 2.4 percentage points.[17] The magnet-voluntary plan, by contrast, has managed to increase racial balance every year since 1975 including the present year, a total of 13 percentage points. As Table 4-10 indicates, while interracial exposure has declined by four percentage points since the plan was implemented, this is considerably less than would be predicted from a school district that went from 60 percent minority to 82 percent minority over that time period.

As Table 4-11 shows, after dismantling the mandatory desegregation plan which had been in effect for three years, Los Angeles was able to produce greater interracial exposure with the return to sole reliance on magnets and the majority-to-minority transfer program than would have been predicted if the mandatory plan had continued. The mandatory desegregation plan implemented in 1978 increased interracial exposure by less than a 1/2

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[17] This is half the increase of the 1980 St. Louis mandatory reassignment plan, but twice as much as the 1978 Los Angeles mandatory plan.

Table 4-10

Houston
Enrollment and Segregation Indices Pre and Post Dismantling of Mandatory Plan

			INTERRACIAL EXPOSURE		RACIAL IMBALANCE	
	White Enrollment	% WE Change	Actual Smw	Predicted Smw	Actual Dm	Predicted Dm
1967	131803		84.6		90.9	
1968	131099	-0.5	15.4		80.4	
1969	124451	-5.1	16.0		79.1	
	1970		MANDATORY DESEGREGATION			
1970	119181	-4.2	18.4		74.9	
1971	107587	-9.7	18.2		73.7	
1972	98282	-8.6	17.6		72.7	
1973	87776	-10.7	17.3		71.3	
1974	81459	-7.2	17.0		70.5	
	1975		MAGNET-VOLUNTARY			
1975	75085	-7.8	16.8	16.6	69.6	69.3
1976	71430	-4.9	16.8	16.2	68.2	68.2
1977	66439	-7.0	16.6	15.8	67.3	67.1
1978	59407	-10.6	16.1	15.4	66.0	66.0
1979	53086	-10.6	15.9	15.0	64.2	64.9
1980	48811	-8.1	15.7	14.6	62.1	63.8
1981	45048	-7.7	15.1	14.2	60.5	62.7
1982	42136	-6.5	14.7	13.8	59.3	61.6
1983	38481	-8.7	14.1	13.4	58.3	60.5
1984	35604	-7.5	13.6	13.0	57.5	59.4
1985	34111	-4.2	12.8	12.7	57.4	58.3
CHANGE DURING MAND. (5 Years)						
1969-74	-42992	-34.5	6.7		-11.0	
CHANGE DURING VOL. (5 Years)						
1974-79	-28373	-34.8	-6.5		-8.8	
CHANGE SINCE VOL.						
1974-85	-47348	-58.1	-24.9		-18.6	

Table 4-11

Los Angeles
Enrollment and Segregation Indices Pre and Post Dismantling of Mandatory Plan

			INTERRACIAL EXPOSURE		RACIAL IMBALANCE	
	White Enroll	% White Enroll. Change	ACTUAL Smw	PREDICTED Smw	ACTUAL Dm	PREDICTED Dm
1966	351817		20.8		73.9	
1967	350177	-0.5	20.6		73.5	
1968	347967	-0.6	20.5		72.9	
1969	335511	-3.6	20.5		72.1	
1970	318431	-5.1	20.5		71.1	
1971	300079	-5.8	20.2		70.2	
1972	283199	-5.6	20.1		69.3	
1973	269768	-4.7	19.7		69.0	
1974	250914	-7.0	19.8		67.3	
1975	240787	-4.0	19.6		66.7	
1976	219359	-8.9	18.9		65.9	
1977	194808	-11.2	18.9		62.9	
	1978	MANDATORY DESEGREGATION				
1978	163912	-15.9	19.2		58.7	
1979	146535	-10.6	17.9		58.1	
1980	127281	-13.1	16.9		57.3	
	1981	MAGNET-VOLUNTARY				
1981	120729	-5.1	15.3	15.7	60.7	56.8
1982	118120	-2.2	15.0	14.6	59.9	56.1
1983	113964	-3.5	14.3	13.4	60.7	55.4
1984	110313	-3.2	13.8	12.3	60.5	54.7
1985	107216	-2.8	13.1	11.1	61.3	54.0
CHANGE DURING MAND. (3 Years)						
1977-80	-67527	-34.7	-2.0		-5.6	
CHANGE DURING VOL. (3 Years)						
1980-83	-13317	-10.5	-2.6		3.4	
CHANGE SINCE VOL.						
1980-85	-20065	-15.8	-3.8		4.0	

percentage point and reduced racial imbalance by only 5 percentage points because of white flight and the fact that the plan only included grades 4-8. When it was expanded in 1980 to include all grades, interracial exposure declined by 1 percentage point. With a return to voluntary desegregation in 1981, the decline in interracial exposure was slowed as a result of whites returning to the public schools. By 1982, the white enrollment loss rate had been reduced to two percent, one of the lowest in our sample[18] and interracial exposure was higher than would have been projected if the mandatory plan had continued. This trend has continued through 1985.

Table 4-12 shows the trends in interracial exposure and racial balance in Cambridge from 1968 through 1985. These data indicate that the dismantling of the mandatory reassignment plan and its replacement with a "controlled choice" plan similar to Montclair's in which all attendance zones are eliminated, did not resegregate the school system. In fact, racial imbalance has continued to decline every year since the controlled choice plan was implemented until it is close to perfect. Although interracial exposure has also declined every year due to a declining white enrollment, this has stabilized in the last year.

Table 4-13 shows the trends in interracial exposure in Oklahoma City from 1968 through 1985. Oklahoma City dismantled its mandatory reassignment plan in 1985 and replaced it with a neighborhood school plan and M to M transfer program. Unlike Montclair, Houston, Los Angeles, and Cambridge, however, there are no magnet programs in minority schools. This plan increased racial imbalance by 15 percentage points and reduced interracial

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[18] The 1982 average white enrollment loss for the districts in our sub-sample analysis with mandatory plans was -6 percent. For the districts with voluntary plans it was -2.6 percent.

Table 4-12

Cambridge
Elementary* Enrollment and Segregation Indices Pre and Post Dismantling of Mandatory Plan

			INTERRACIAL EXPOSURE		RACIAL IMBALANCE	
	White Enrollment	% WE Change	Actual Smw	Predicted Smw	Actual Dm	Predicted Dm
1967						
1968	6705		71.3		36.6	
1969	6692	-0.2	72.5		36.8	
1970	6438	-3.8	71.4		37.1	
1971	6253	-2.9	69.2		39.9	
1972	6076	-2.8	68.7		37.3	
1973	6050	-0.4	68.2		33.9	
1974	5356	-11.5	65.9		31.3	
1975	5184	-3.2	60.5		37.9	
1976	4929	-4.9	58.7		38.8	
1977	4674	-5.2	57.1		39.7	
1978	4325	-7.5	55.6		38.6	
1979	4138	-4.3	55.2		35.1	
	1980	MANDATORY	DESEGREGATION			
1980	3806	-8.0	60.1		26.0	
1981	3449	-9.4	59.1		17.8	
	1982	VOLUNTARY	DESEGREGATION			
1982	3251	-5.7	57.5		15.8	
1983	3013	-7.3	56.1		14.7	
1984	2839	-5.8	54.1		10.9	
1985	2805	-1.2	54.1		9.9	
CHANGE DURING MAND. (2 YEARS)						
1979-1981	-689	-16.7	3.9		-17.3	
CHANGE DURING VOL. (2 YEARS)						
1981-1983	-436	-12.6	-3.0		-3.1	
CHANGE SINCE VOL.						
1981-1985	-644	-18.7	-5.0		-7.9	

* Cambridge has only one high school.

Table 4-13

Oklahoma City
Enrollment and Segregation Indices Pre and Post Dismantling of Mandatory Plan

				INTERRACIAL EXPOSURE		RACIAL IMBALANCE	
		White Enrollment	% WE Change	Actual Smw	Predicted Smw	Actual Dm	Predicted Dm
1967		59417					
1968		58472	-1.6	12.2		88.6	
1969		53470	-8.6	26.0		71.5	
1970		50495	-5.6	28.5		68.5	
1971		49571	-1.8	30.3		66.7	
1972 MANDATORY DESEGREGATION							
1972		42224	-14.8	63.7		26.8	
1973		37461	-11.3	64.2		24.4	
1974		34568	-7.7	62.8		22.3	
1975	**	31944	-7.6	60.2		22.5	
1976		29319	-8.2	57.5		22.6	
1977	**	27997	-4.5	56.3		22.4	
1978		26674	-4.7	55.0		22.1	
1979	**	24964	-6.4	53.2		22.1	
1980		22713	-9.0	51.4		22.1	
1981	**	22449	-1.2	50.3		22.6	
1982		22185	-1.2	49.2		23.0	
1983	**	21111	-4.8	52.8		23.7	
1984		20037	-5.1	56.4 *		24.4 *	
1985 VOLUNTARY DESEGREGATION							
1985		19557	-2.4	46.2 *	55.2	38.2 *	24.4
1986		18975	-3.0	45.1 *	54.2	39.4 *	24.4

CHANGE DURING MAND. (2 Years)
1970-72

CHANGE DURING VOL. (2 Years)
1986-1984

* Blacks and Others
** Data in these years extrapolated from adjoining years.

exposure from 56 to 45 percent white in the average black child's school from 1984 to 1986. Hence, these data suggest that dismantling a mandatory plan and replacing it with a voluntary plan will not resegregate a school system only _if_ the plan includes magnet programs in minority schools and there are racial controls on schools.

Summary

The analysis presented here, consisting of 2/3 of the comprehensive magnet-voluntary desegregation plans in our 119 school district sample, suggests that a magnet school plan based primarily on voluntary transfers will produce greater long-term interracial exposure than a mandatory reassignment plan with magnet components probably because of the greater white flight from the latter. Mandatory desegregation plans produce a large implementation year reduction in racial isolation and then begin to resegregate shortly thereafter. Magnet-voluntary plans, by contrast, typically start off more slowly, but continue to reduce racial isolation by a few percentage points a year. Around the third or fourth year of desegregation, the two trend lines cross and the magnet-voluntary plans in this sample produce greater interracial exposure over time than the mandatory plans, all other things being equal. This appears to be true regardless of whether a school district is greater than or less than 30 percent minority and regardless of the extent of predesegregation interracial exposure.

This analysis also shows that mandatory plans can be dismantled with no harm _if_ they are replaced with a comprehensive voluntary plan whose goal is to at least maintain the prior level of racial balance. Returning to neighborhood schools and relying solely on an M to M program will probably produce some resegregation as it did in Oklahoma City.

The finding that primarily voluntary plans produce more interracial exposure over time than mandatory plans and that the latter can be dismantled and replaced with comprehensive magnet-voluntary desegregation plans without causing resegregation is stunning. Moreover, it is contrary to even some of the most recent conclusions of the desegregation research and court decisions of the last several decades.[19]

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[19] A recent review of the research by Hawley and Smylie (1986) citing studies published through 1983 concluded that "Wishful thinking to the contrary and occasional anecdotes notwithstanding, wholly voluntary strategies are only partially successful in reducing racial isolation...those based primarily on voluntary strategies...have limited impact on levels of racial isolation throughout the system, particularly in districts with substantial proportions of minority students." We believe this is a correct reading of the research prior to this report. The Fifth Circuit Court of Appeals concluded only a few months ago that a magnet-voluntary plan proposed for the Hattiesburg, Mississippi school district "did not meet the constitutional test for dismantling a long established dual system. Magnet schools should be a supplement to a mandatory desegregation plan based to a reasonable extent on mandatory reassignment and pairing and clustering of schools" (p. 10-11) and that "burdening black parents with the obligation of choosing schools is unworkable in fact and contrary to the law" (ft. 10) (U.S. v. Pittman et al. v. the State of Mississippi and Hattiesburg Municipal Separate School District, No. 85-4804, Jan. 12, 1987)

CHAPTER FIVE

NATIONAL TRENDS IN SCHOOL DESEGREGATION AND ENROLLMENT

Enrollment Trends

Table 5-1 shows the average desegregation year, the 1970 and 1984 enrollment data and percentage white in four categories of school districts. Northern (i.e., non-southern) court or Hew ordered, southern court or Hew ordered, northern board ordered, and a control group of school districts with no identifiable desegregation plan.[1] The data for each individual school district are in Appendix 5.

The northern school districts tend to be larger than the southern school districts in 1970 but similar in percentage white. The northern court ordered school districts had an average 63 percent white enrollment in 1970. By 1984 this had declined to 46 percent white. The southern court ordered school districts had an average 61 percent white enrollment in 1970. By 1984 this had declined to 46 percent white. The northern board ordered school districts had an average 70 percent white in 1970. By 1984 this had declined to 54 percent. The northern control group, by contrast, had a percentage white enrollment of 48 percent in 1970. By 1984 this had declined to 34 percent white.

Table 5-2 shows the percentage change in enrollment[2] and the change in percentage white between 1970 and 1984 for the four categories of school districts. The northern court ordered school districts had an average

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[1] The difference between school districts with no identifiable plan and the board ordered districts may in some cases simply be the difference between one in which a school board made a formal policy decision and one in which the school administration carried out an informal policy producing the same (typically, small) effect.

[2] Enrollment in 1984 minus enrollment in 1970 divided by enrollment in 1970.

Table 5-1

Enrollment Data in 119 School Districts

CATEGORY	DESEG. YEAR	1970 ENROLLMENT			1970 % WHITE			1984 ENROLLMENT			1984 % WHITE		
	AVER.	AVER.	MIN.	MAX.	AVER.	MIN.	MAX.	AVER.	MIN.	MAX.	AVER.	MIN.	MAX.
NORTH COURT ORDER	1975	105311	14931	642895	63.3	19.3	91.2	65828	12023	563007	45.8	10.4	86.3
SOUTH COURT ORDER	1973	89091	16016	241139	61.4	28.6	85.8	71576	11923	228062	45.8	7.6	80.8
NORTH BOARD ORDER	1973	64708	7724	1140359	69.7	21.4	91.6	48112	5429	931768	54.1	2.2	87.8
NORTH CONTROL		39208	8524	145330	47.7	4.5	93.3	28244	8050	82596	33.7	0.3	91.1

Table 5-2

Change in Enrollment Data in 119 School Districts

CATEGORY	DESEG. YEAR AVER.	% ENROLLMENT CHANGE AVER.	MIN.	MAX.	CHANGE IN PERCENTAGE WHITE AVER.	MIN.	MAX.
NORTH COURT ORDER	1975	-33.1	-83.3	20.1	-19.1	-36.0	-4.9
SOUTH COURT ORDER	1973	-17.3	-50.6	6.4	-15.6	-34.0	-0.4
NORTH BOARD ORDER	1973	-29.9	-48.6	-9.4	-16.0	-29.6	-2.1
NORTH CONTROL		-22.2	-43.2	4.3	-13.9	-29.4	-0.7

enrollment decline of 33 percent during this time period and a decline in percentage white of 19 percentage points. This obscures a great deal of variation, however, from an 83.3 percent enrollment decline in Chicago to a 20 percent enrollment increase in Las Vegas. The decline in percentage white varies from a 36 percentage point decline in Boston to a 5 percentage point decline in Evansville.[8] The southern court ordered school districts had an average enrollment decline of 17 percent during this time period and a decline in percentage white of 16 percentage points. The northern board ordered school districts had an average enrollment decline of 30 percent and a decline in percentage white of 16 percentage points. The northern control group, by contrast, had an average enrollment decline of 22 percent and a decline in percentage white of 14 percentage points.

In short, all of the categories of northern school districts, including the control group, had greater enrollment declines than the southern court ordered group. This probably is a function of northern migration to the sunbelt. As for the decline in percentage white, the control group had the least (-14 percentage points) and the northern court ordered group the most, on average (-19 percentage points). There are large demographic changes going on nationally, however, and one must be cautious about drawing policy conclusions from these data.

Interracial Exposure

There are a number of measures that we can use to assess desegregation trends nationwide that are of interest to scholars. While interracial exposure is the most appropriate measure of the goals of a school desegregation plan, it is limited in comparative assessments by the necessity of controlling for percentage white if one is to avoid pejorative conclusions regarding the willingness of policymakers to desegregate schools. Policy conclusions should not be drawn from such descriptive state-by-state or regional data as shown, for example, in Orfield (1984) and Orfield and Monfort (1986). Some states or regions may have less interracial exposure than others, not because they are somehow dragging their heels in the desegregation of their schools, but because they have a lower percentage white than others, something policymakers have no control over.

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[8] Wilmington is excluded from this change analysis because of the misleading and dramatic increase in percentage white due solely to its merger with three other predominantly white school districts.

Therefore, we will present a variety of desegregation measures in our comparative assessment and each of these measures will assess desegregation from a different angle. The first measure used is, of course, interracial exposure. Table 5-3 shows the extent of interracial exposure in northern court-ordered districts, southern court-ordered districts, northern board ordered districts, and a "control" group of school districts with no identifiable school desegregation plan. (These data can be found on a district-by-district basis in Appendix 6.) These groups of school districts include those with voluntary and mandatory plans together.

The data in Table 5-3 show considerable variation. While in northern court ordered school districts, there was, on average, 35 percent white in the average minority child's school preimplementation, the minimum interracial exposure was 8.6 (St. Louis) and the maximum 72.6 (Erie). In the implementation year (1975 on average), there was 45 percent white in the average minority child's school, but the minimum interracial exposure was 9.9 (Chicago) and the maximum 87 (Evansville). By 1984, this had declined to an average of 39.4 percent with a minimum of 8.1 percent (Detroit) and a maximum of 82.4 percent (Evansville).

Table 5-3

Interracial Exposure in 119 School Districts

	DESEG. YEAR	PREIMPLEMENTATION			IMPLEMENTATION			1984			% WHITE 1984
CATEGORY	AVER.	AVER.	MIN.	MAX.	AVER.	MIN.	MAX.	AVER.	MIN.	MAX.	AVER.
NORTH COURT ORDER	1975	34.6	8.6	72.6	45.0	9.9	87.0	39.4	8.1	82.4	46
SOUTH COURT ORDER	1973	22.9	7.2	56.8	39.0	8.9	77,4	36.0	5.2	75.9	46
NORTH BOARD ORDER	1973	49.2	10.9	78.6	49.8	9.4	80.1	46.2	1.2	76.4	54
NORTH CONTROL	1973	29.6	2.1	78.4	27.0	1.8	77.1	21.4	0.3	77.8	34

In southern court ordered school districts, there was an average 23 percent white in the average minority child's school preimplementation, but this varied from 7.2 (Birmingham) to 56.8 percent (Amarillo). In the implementation year, the average was 39 percent, but this varied from 8.9 percent (Atlanta) to 77.4 percent (St. Petersburg). By 1984, interracial exposure had declined to an average 36 percent with a minimum of 5.2 percent (Atlanta) and a maximum of 75.9 percent (St. Petersburg).

The northern board ordered school districts began with more interracial exposure predesegregation -- an average 49 percent with a minimum of 10.9 (Hartford) and a maximum of 78.6 (Montgomery County) -- and ended with more interracial exposure -- an average 46 percent in 1984 with a minimum of 1.2 (E. St. Louis) and a maximum of 76.4 (Des Moines).

Contrary to the impression one gets from descriptive, national studies which compare all northern school districts to all southern school districts (Farley, 1981; Orfield, 1984; Orfield and Monfort, 1986), these data show large, northern court ordered school districts to produce significantly greater interracial exposure than large, court ordered southern school districts, although both groups have the same percentage white. Southern courts are apparently more lenient with large school districts than northern courts both initially and postimplementation as resegregation occurs.

Table 5-4 shows the change in interracial exposure from preimplementation to the implementation year and from the implementation year to 1984. Although the data in Appendix 5 show some cases of greater decline in interracial exposure postimplementation than was gained with desegregation, on average this is not the case. In northern court ordered school districts, there was an average increase in interracial exposure of 10.6

Table 5-4

Change in Interracial Exposure in 119 School Districts

CATEGORY	DESEG. YEAR AVER.	PREIMP. TO IMPLEM. AVER.	MIN.	MAX.	IMPLEM. TO 1984 AVER.	MIN.	MAX.	% 1984 AVER.
NORTH COURT ORDER	1975	10.6	-3.2	63.2	-5.6	-26.7	11.8	46
SOUTH COURT ORDER	1973	16.1	-0.4	47.3	-3.0	-12.1	11.5	46
NORTH BOARD ORDER	1973	4.3	-4.9	32.6	-3.1	-24.2	11.4	54
NORTH CONTROL	1973	-2.0	-5.4	1.4	-3.9	-12.8	1.8	34

percentage points in the implementation year, but a decline of only 5.6 percentage points from the implementation year to 1984. The southern court ordered school districts had an average increase in interracial exposure of 16 percentage points, but a decline of only 3 percentage points. The northern board ordered plan school districts, with a good deal of missing data for 1984 because OCR did not sample many of them, show an average increase in interracial exposure of 4 percentage points, but a decline of only 3 percentage points postimplementation. The control group school districts, by contrast, experienced a decline in interracial exposure of 2 percentage points from 1972 to 1973 (the average year of desegregation for the other school districts), and 4 percentage points from 1973 to 1984. In other words, on average, these desegregation plans, which include both voluntary and mandatory plans in districts with high and low percentage minority, produced more interracial exposure with desegregation than they lost in subsequent years as a result of white flight and the declining birth rate. In short, school desegregation plans are not counterproductive.

Racial Imbalance -- The Index of Dissimilarity

The more traditional measure of desegregation effectiveness used by academics is racial imbalance, typically measured by the index of dissimilarity. (See Chapter Two for a complete description of the measure.) In descriptive comparative studies, the index of dissimilarity is more commonly used than interracial exposure because with the former one does not have to control for the predesegregation percentage white. A racial balance measure adjusts to whatever racial proportions are in the school district.

Table 5-5 shows the average, minimum, and maximum racial imbalance in different categories of school districts. (The individual school district data

Table 5-5

Racial Imbalance in 119 School Districts

CATEGORY	DESEG. YEAR AVER.	PREIMPLEMENTATION AVER.	PREIMPLEMENTATION MIN.	PREIMPLEMENTATION MAX.	IMPLEMENTATION AVER.	IMPLEMENTATION MIN.	IMPLEMENTATION MAX.	1984 AVER.	1984 MIN.	1984 MAX.
NORTH COURT ORDER	1975	56.7	27.7	83.9	39.2	11.6	76.9	32.6	13.6	69.6
SOUTH COURT ORDER	1973	73.0	45.2	90.1	53.1	16.6	75.6	45.1	17.4	75.8
NORTH BOARD ORDER	1973	50	12.3	80.0	42.8	8.0	80.9	33.2	3.4	78.5
NORTH CONTROL	1973	50.7	0.0	78.4	51.0	0.0	79.1	51.3	0.0	83.7

can be found in Appendix 7.) The higher the measure, the more racially imbalanced the school district. Again, these data show considerable variation in racial imbalance from a minimum in the implementation year of 11.6, near perfect, in Pasadena to a maximum of 76.9 in Philadelphia. There is as much variation in the southern school districts from a minimum of 16.6 in Charlotte-Mecklenburg to a maximum of 75.6 in Birmingham, Alabama.

Again, we see that the southern school districts have a much higher average level of racial imbalance than the northern school districts, both in the implementation year and the postimplementation period. By 1984, both the northern board ordered and northern court ordered school districts have an average level of racial imbalance of 33, lower than the southern court ordered school districts' index of 45. The northern control group, by contrast, has more racial imbalance with an index of 51.

Table 5-6 shows the reduction in racial imbalance from preimplementation to implementation and from implementation to 1984. On average, the court ordered school districts experienced a reduction in racial imbalance of almost 20 percentage points with desegregation and the board ordered school districts a reduction of nine percentage points. The northern control group, on the other hand, had a small increase in racial imbalance. All categories of school districts, including the control group, have had an average reduction in racial imbalance during the postimplementation period that varies from six to nine percentage points. In other words, on average, these districts are not becoming more imbalanced.

Table 5-6

Change in Racial Imbalance in 119 School Districts

	DESEG. YEAR	PREIMP. TO IMPLEM.			IMPLEM. TO 1984		
CATEGORY	AVER.	AVER.	MIN.	MAX.	AVER.	MIN.	MAX.
NORTH COURT ORDER	1975	-17.7	-65.4	3.4	-6.6	-39.4	15.3
SOUTH COURT ORDER	1973	-20.3	-50.8	0.3	-8.0	-38.8	15.6
NORTH BOARD ORDER	1973	-8.9	-36.3	1.6	-9.0	-30.0	10.5
NORTH CONTROL	1973	0.3	-5.9	7.1	-6.6	-39.2	9.3

The Percentage of Students in Desegregated Schools

While interracial exposure and racial imbalance are useful measures for social scientists, they are rarely used by the courts as a standard.[4] This is because the courts typically want to control racial balance in each school and neither the index of dissimilarity nor interracial exposure will allow that. In other words, an index of dissimilarity of 36 could be achieved by leaving some schools all black and strictly racially balancing the others or by having all schools racially balanced with some specified deviation. Thus the lack of control over individual schools and uncertainty over which level of the index to select has made most courts reluctant to impose the index of dissimilarity as a standard.

The most common court ordered desegregation standard in predominantly white or 50/50 school districts[5] is that all schools (often excluding certain schools), or some designated percentage of schools (i.e., 75% in Milwaukee) be within either plus or minus 15 percentage points or more recently, plus or minus 20 percentage points. Table 5-7 shows the percentage of students in desegregated schools by both standards in the implementation year and in 1984. (Appendix 8 contains data for the individual school districts.)

Of the 40 northern school districts which desegregated under court order, only one -- Pasadena -- has 100 percent of its students in desegregated schools by either criterion in the year its plan was implemented. By 1984, there is still only one school district -- Erie, Pennsylvania -- with 100

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[4] One notable exception to this is the recent consent decree in Cincinnati (*Bronson, et al. v. Board of Education of the City School District of the City of Cincinnati*, 604 F. Supp. 68 (1984) which approved a "Taeuber Index" (i.e. index of dissimilarity) of "approximately 36 by the 1990-91 school year" (604 F.Supp. 76).

[5] Cleveland is one of the few predominantly minority school districts where such an across the board standard has been used.

Table 5-7

Percentage of Students in Racially Balanced Schools in 119 School Districts

		IMPLEMENTATION YEAR								1984							
		15% CRITERION				20% CRITERION				15% CRITERION				20% CRITERION			
CATEGORY	DESEG. YEAR AVER.	AVER.	MIN.	MAX.	# W/ ALL SCHOOLS BAL.	AVER.	MIN.	MAX.	# W/ ALL SCHOOLS BAL.	AVER.	MIN.	MAX.	# W/ ALL SCHOOLS BAL.	AVER.	MIN.	MAX.	# W/ ALL SCHOOLS BAL.
NORTH COURT ORDER	1975	55.4	9.8	100.0	1	70.0	18.5	100.0	1	68.5	10.3	97.2	0	81.0	21.1	100.0	1
SOUTH COURT ORDER	1973	38.2	8.4	95.2	0	51.9	13.9	97.5	0	50.1	11.3	95.5	0	64.9	19.0	97.9	0
NORTH BOARD ORDER	1973	64.0	5.7	100.0	2	74.9	21.1	100.0	2	72.1	19.6	100.0	2	83.3	30.5	100.0	3
NORTH CONTROL	1973	51.7	10.0	100.0	1	46.5	16.2	100.0	1	64.6	0.0	100.0	1	70.9	8.9	100.0	1

percent of its students in desegregated schools – by the plus or minus 20 percentage point criterion. None were able to do so by the plus or minus 15 percentage point criterion. The average for the northern court ordered districts is 55 percent and 70 percent of the students in racially balanced schools at plus or minus 15 and plus or minus 20 percent respectively in the year of implementation. By 1984, the average had increased to 69 and 81 percent for each criterion.

None of the southern court ordered school districts in this sample ever achieved 100 percent of their students in racially balanced schools by either criterion at any time. The average for these school districts is 38 percent of the students in schools plus or minus 15 percentage points and 52 percent of the students in schools plus or minus 20 percentage points in the implementation year. The 1984 average for southern court ordered school districts is 50 percent by the 15 percentage point standard and 65 percent by the 20 percentage point standard.

Among the northern board ordered school districts there are only two school districts – Montclair and Cambridge – with 100 percent of their students in desegregated schools in the implementation year and in 1984 by either standard. The average is 64 and 75 percent by each criterion in the implementation year and 72 and 83 percent by each criterion in 1984.

The school districts with 100 percent of their students in desegregated schools have two things in common – they are small and they are predominantly white. The range in size is from approximately 5,000 in Montclair to 13,000 in Erie. The percentage white ranges from 51 in Montclair to 72 percent in Erie.

In short, the available evidence suggests that, contrary to the implications of most of the school desegregation literature and many court orders, the vast majority of school districts do not even come close to achieving 100 percent. Indeed, 3/4 of the students in desegregated schools, Milwaukee's standard, would be considered an ambitious goal by the standards of the school districts in this sample.

Percentage of Minority Students in White and Minority Schools

The two racial balance measures we have discussed so far -- the index of dissimilarity and the percentage of students in desegregated schools, plus or minus 15 or 20 percentage points -- are considered especially problematic in high percentage minority school districts. If a school district is 80 percent minority and every school is balanced at 80 percent minority, it will have an index of dissimilarity of 0, perfect racial balance. Many observers, however, would not consider such schools to be desegregated. Similarly, 100 percent of the students in desegregated schools, plus or minus 20 percentage points, could be achieved in the same school district with half the schools at 100 percent black and half at 60 percent black. Clearly, schools which are 100 percent black would not be considered desegregated by most people.

Several measures have been used by Orfield and Monfort (1986) and by the courts in St. Louis and Detroit which change the standard for a desegregated school from racial balance to at or above 50 percent white. Orfield and Monfort (1986) also analyze "highly segregated" schools -- those at or above 90 percent minority. While we agree that these are useful measures, we find no consensus as to the cut-off points. The limit of 50 percent or more white as a standard in both Detroit and St. Louis has been criticized as too strict. While there are many good arguments for using this standard, and it is certainly suggested by the literature on the positive effects of school desegregation, we think that in 1987 such a standard is too strict and no longer reflects either white attitudes or changing demographics. For example, the Buffalo school system is currently 56 percent minority with virtually no district level white enrollment loss. It has several magnets stably integrated at 55 percent minority, 45 percent white. By Orfield's standard, however, these schools would be excluded from the category of desegregated schools.

Therefore, we have assessed desegregation in 1984 with four categorical measures. Two of these are Orfield's measures -- the percentage of minority students in schools at or above 50 percent white, and the percentage of minority students in schools at or above 90 percent minority. We have added two more -- the percentage of minority students in schools at or above 40 percent white which we believe is preferable to 50 percent white, and the percentage of minority students in schools at or above 80 percent minority. The latter is a standard that is also commonly used and therefore can be useful in assessing national desegregation trends.

Table 5-8 shows these four measures of desegregation for our sample in 1984. Appendix 9 lists the data for each school district. In the court ordered school districts, only one-third of the minority students are in schools greater than or equal to 50 percent white. Forty eight percent of minority students are in schools at or above 40 percent white in the North and 44 percent are in schools at or above 40 percent white in the South.

Because they have a higher percentage white in their school districts than the other categories, the northern board ordered school districts are at an advantage in comparisons using these measures. Fifty nine percent of minority students are in schools at or above 40 percent white and 48 percent are in schools at or above 50 percent white.

School districts with plans, however, do substantially better than the

Table 5-8

Categorical Measures of Desegregation in 119 School Districts

CATEGORY	AVER. DESEG YEAR	% MINORITIES IN SCHOOLS >40% WHITE			% MINORITIES IN SCHOOLS >50% WHITE			% MINORITIES IN SCHOOLS >80% WHITE			% MINORITIES IN SCHOOLS >90% WHITE		
		AVER.	MIN.	MAX.	AVER.	MIN.	MAX.	AVER.	MIN.	MAX.	AVER.	MIN.	MAX.
NORTH COURT ORDER	1975	48.0	1.5	100.0	34.3	0.0	100.0	27.5	0.0	87.0	18.8	0.0	77.0
SOUTH COURT ORDER	1973	43.5	2.5	95.9	33.9	0.8	90.0	42.6	0.0	89.6	34.5	0.0	86.2
NORTH BOARD ORDER	1973	59.1	0.0	100.0	47.6	0.0	100.0	27.1	0.0	100.0	22.1	0.0	97.1
NORTH CONTROL	1973	21.7	0.0	21.7	21.2	0.0	21.2	69.4	0.0	69.4	58.0	0.0	58.0

control group. The control group has only 22 percent of its students in schools at or above 40 and 50 percent white.

The northern board ordered school districts are also at an advantage in terms of the percentage of students in schools at or above 80 percent and 90 percent minority. The northern court ordered school districts have 19 percent of their minority students in schools at or above 90 percent minority, the southern court ordered districts have 35 percent of their minority students in schools at or above 90 percent minority, whereas the northern board ordered school districts have only 22 percent of their minority students in schools at or above 90 percent minority. The northern control group, by contrast, has 58 percent of its students in schools at or above 90 percent minority, in part because its percentage minority is twenty percentage points higher than that of the school districts in the other categories. These data once again show the northern court ordered school districts being held to a stricter standard than the southern court ordered school districts.

Big City School Desegregation

The voluntary-mandatory comparison in Chapter 4 excludes two highly publicized magnet-voluntary plans in Chicago and Philadelphia because they did not meet the sampling criterion of the original Abt Associates study. Nevertheless, these districts are important enough to examine in some depth. Although the Reagan Administration's Justice Department touts the Chicago Plan as a success, there is a general feeling among academics that both the Chicago and Philadelphia plans are failures.[6]

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[6] On the other hand, Robert Crain, a well known and highly regarded supporter of school desegregation, testified on behalf of the Philadelphia magnet school plan (Pa. Cmwlth, 443 A.2d 1350-1351, 1982).

In this section we compare two "big city" court ordered school districts -- St. Louis and Detroit -- which desegregated under magnet-mandatory reassignment plans with three "big city" court ordered school districts which desegregated under a magnet-voluntary reassignment plan. We define "big city" here as having a total enrollment greater than 100,000 in 1970 and a percentage minority greater than 50 percent. In fact, all but Houston had a minority enrollment greater than 65 percent in 1970.[7]

In order to compare the relative utility of voluntary and mandatory desegregation plans in big city school districts, however, we have to make an adjustment to St. Louis' desegregation indices. In 1982, St. Louis began an interdistrict transfer program which in 1986-87 bused approximately 10,000 black children from the city of St. Louis to the surrounding suburbs. These transfers reduced racial imbalance by 6 percentage points from 1982 to 1986 and increased interracial exposure by 3.2 percentage points. They also decreased the percentage minority in the school system from 81 percent in 1986 without interdistrict transfers to 77 percent with them. The other four school districts have only intra-city desegregation plans. If we do not subtract out the effect of the interdistrict transfers, we will confuse the effect of the voluntary metropolitan plan with that of the mandatory reassignment plan within the city of St. Louis. It should be emphasized, however, that the St. Louis interdistrict transfer plan is an integral part of the entire plan and there is no central city school district in our sample that could not benefit from such an addition to its plan.

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[7] Houston is much lower in percentage minority than the others in 1974. By 1986, however, there is no difference. Technically it does not belong in this category since it was included in the Abt Associates study. Therefore, averages are presented with and without Houston.

Unfortunately, we only have yearly data for the interracial exposure and racial imbalance (index of dissimilarity) measures, so only these measures and the percentage white in the district can have the effect of the interdistrict transfer program subtracted out. Table 5-9 shows the interracial exposure for blacks (Sbw), minorities (Smw), racial imbalance between blacks and white (Db) and minorities and whites (Dm) in 1970 and 1984. These data show no obvious superiority of one type of plan over another type. The districts with the voluntary plans have a higher 1986 percentage white in the average minority child's school (Smw), but the districts with mandatory plans have a higher percentage white in the average black child's school (Sbw). This is true regardless of whether Houston is included in the voluntary plan group. There is considerable variation within these two groups, however.

These data show that, of the mandatory reassignment plans, St. Louis is the most successful.[8] Of the districts with voluntary plans, Philadelphia and Houston appear to be the most successful and the equal of St. Louis. It is tempting to declare the Chicago plan a failure since it has quite a bit less interracial exposure than St. Louis, Houston and Philadelphia. We believe, however, that the sheer size of Chicago -- it is more than twice as large as Houston, Philadelphia, and Detroit and seven times larger than St. Louis -- would limit the interracial exposure and racial imbalance of any type of plan. Chicago is certainly in no worse shape than Detroit which desegregated under

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[8] This is despite the fact that the 1980 mandatory plan increased the annual white enrollment loss from 10 percent to 22 percent in the implementation year. It should also be noted that the voluntary transfer program from 1975 to 1979 in St. Louis increased interracial exposure from 4.7 to 8.2, a gain of 3 1/2 points, only a little less than the 4.5 point increase with the mandatory plan from 1980 to 1982 before the interdistrict transfer program began. The voluntary plan also reduced racial imbalance by 10 percentage points, the same reduction produced by the mandatory plan before the voluntary interdistrict transfer program began. Of course, we do not know whether the voluntary plan, even if expanded, would have achieved the same absolute level as the mandatory plan.

Table 5-9

A Comparison of Mandatory and Magnet-Voluntary Desegregation Plans in Big Cities

		1974						1986					
				Interracial Exposure		Racial Imbalance				Interracial Exposure		Racial Imbalance	
	Deseg. Year	Enroll.	% Min.	Sbw	Smw	Db	Dm	Enroll.	% Min.	Sbw	Smw	Db	Dm
MANDATORY													
St. Louis*	1980	93320	70.4	4.7	5.3	91.0	90.4	58319	80.7	12.7	13.1	69.4	68.5
Detroit	1975	256300	73.9	10.7	11.9	74.9	73.0	190679	90.8	6.5	7.2	61.3	59.3
Aver.	1978	174810	72.2	7.7	8.6	83.0	81.7	124499	85.8	9.6	10.2	65.4	63.9
VOLUNTARY													
Chicago	1982	530191	72.5	3.2	9.0	92.0	81.1	431290	86.5	5.3	9.4	81.8	68.2
Houston**	1975	211369	61.5	9.3	15.0	81.3	72.6	194567	83.2	10.3	12.6	66.3	55.7
Phila.	1978	266500	66.8	9.1	10.2	81.3	79.3	195552	75.9	12.3	14.0	72.2	67.8
Aver.	1978	336020	66.9	7.2	11.4	84.9	77.7	273803	81.9	9.3	12.0	73.4	63.9
Aver. w/out Houston	1980	398346	69.7	6.2	9.6	86.7	80.2	313421	81.2	8.8	11.7	77.0	68.0

* 1986 data adjusted to eliminate effect of voluntary interdistrict program.
Actual 1986 Sbw is 15.9 and Db is 63.3 (including kindergarten).

** Adjusted data from Appendix 3b and 4b for 1974.

a mandatory reassignment plan similar to St. Louis' in that whites were reassigned to produce as many schools as possible that were close to 50/50 in racial composition. Since Chicago's magnet-voluntary plan has only been in effect for four years, the least amount of postimplementation time of the five districts, it may be premature to pass judgment on Chicago's outcome. One thing is certain, Chicago is not the huge success that the Reagan Administration's Justice Department argues it is nor is it the failure that some academics have argued.

Table 5-10 shows the change between 1968 and 1974 comparing the voluntary and mandatory plans in these cities. The districts with voluntary plans increased interracial exposure more than the mandatory plans, but the differences appear to be small. Indeed, the only conclusion that can be drawn from these data are that the voluntary plans in these big cities are not the failures that many academics have alleged, but neither are the mandatory plans the failures that the Reagan Administration has charged.

Another way of putting this is in terms of policy recommendations. If one insists on drawing u a mandatory plan in a predominantly minority big city, it should resemble the St. Louis plan with its huge number of magnet schools, its city-suburban busing program, its racial ceilings on desegregated schools rather than a focus on simple racial balance and its minimal mandatory reassignments -- approximately 20 percent of white students in 1986. If one is drawing up a voluntary plan in a predominantly minority, big city school district, it should resemble the Houston and Philadelphia plans.

Ultimately, we would recommend a magnet-voluntary plan of the Houston and Philadelphia variety -- a large number of magnet programs and little or no mandatory reassignments except where necessary because of school closings,

Table 5-10

Change Between 1986 and 1974
in
Big City Voluntary and Mandatory Plans

	% Enroll. Change	Change in % Min.	Interracial Exposure		Racial Imbalance	
			Sbw	Smw	Db	Dm
MANDATORY						
St. Louis	-37.5	10.3	8.0	7.8	-21.6	-21.9
Detroit	-25.6	16.9	-4.2	-4.7	-13.6	-13.7
Aver.	-31.6	13.6	1.9	1.6	-17.6	-17.8
VOLUNTARY						
Chicago	-18.7	14.0	2.1	0.4	-10.2	-12.9
Houston	-7.9	21.7	1.0	-2.4	-15.0	-16.9
Phila.	-26.6	9.1	3.2	3.8	-9.1	-11.5
Aver.	-17.7	14.9	2.1	0.6	-11.4	-13.8
Aver. w/out Houston	-22.7	11.6	2.7	2.1	-9.7	-12.2

not because such a plan will always produce more interracial exposure than a mandatory plan, but because it will produce at least the same interracial exposure, but with an added bonus. The reputation of the educational system in magnet-voluntary desegregation plans appears to be much better than in mandatory plans, even those with magnets, and ultimately that can only redound to the benefit of the city as a whole.

Summary

These data presented here which group school districts into northern (i.e., non-southern) court ordered, southern court ordered, northern board ordered, and a control group, including voluntary and mandatory reassignment plans in each of these categories, show that northern court ordered desegregation plans, on average, produce almost twice as much interracial exposure with the implementation of their desegregation plans as they lose in subsequent years as a result of white flight and the declining birth rate. Southern court ordered school districts, on average, produce five times as much interracial exposure as they lose in subsequent years. The northern board ordered school districts which began with much more interracial exposure show only small increases with the implementation of their plans, on average. There are numerous exceptions, however, to these generalizations. There are court ordered school districts which have had little increase in interracial exposure and numerous board ordered school districts with large increases in interracial exposure. The control group, those with no identifiable desegregation plan, had a decline in interracial exposure during the period that other school districts were showing an increase due to implementation of a plan. They continued this pattern of declining interracial exposure in subsequent years.

These data also show that the courts have either not demanded, or have simply tolerated desegregation plans which do not produce 100 percent of the children in desegregated schools. This is true even in the low percentage minority school districts where it is theoretically possible.

Moreover, only half of the minority students in our court ordered school districts are in schools greater than 40 percent white. In northern court ordered school districts, almost 20 percent are in severely racially isolated school districts and in southern court ordered school districts almost 35 percent are in such schools. In terms of both the percentage of minority students in white schools and the percentage of minority students in severely racially isolated schools, the northern board ordered school districts have achieved the greatest desegregation of all the districts with plans.

In virtually every comparison, we find more desegregation in the northern court ordered school districts than in the southern court ordered school districts in our sample. This is contrary to most descriptive national comparisons which compare all southern school districts to all northern school districts. By contrast, our sample is composed primarily of large school districts.

We also conclude that voluntary plans, on average, produce no less interracial exposure in big city, high proportion minority school districts than do mandatory plans. In short, neither type of plan is a failure given the constraints one has to work with in such cities.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

The research on school desegregation and white flight has overwhelmingly demonstrated two important findings. First, that mandatory desegregation plans have a negative long-term effect on white enrollment in school districts above 30 percent minority -- that is, these school districts do not recover the extraordinary white enrollment losses they incur during the implementation period. Second, that whites by and large do not act irrationally, but instead calculate the costs and benefits of their actions and choose the course with the greatest perceived net benefit. These findings have implications for the kind of desegregation plan which will produce the greatest interracial exposure.

Interracial exposure is defined here as the percentage white in the average minority child's school. We argue that it is a better measure by which to assess the effectiveness of alternative school desegregation plans than racial balance. Interracial exposure measures the costs and benefits of desegregation plans because it goes up with racial balance reassignments, but down with white flight. Racial balance is an inadequate goal because it ignores how many whites are coming into contact with minorities. A school district with one white in each school would have perfect racial balance, but very little interracial exposure.

Magnet schools enroll on average one-third of the students in a school district in voluntary plans and 13 percent of the students in a school district in mandatory plans. The ceiling on magnet participation, however, seems to be 100 percent in small school districts such as Montclair (or Cambridge).

These data confirm that Rossell (1985) was correct in concluding that the three most important variables in predicting the success of a magnet program are location, location, location and that Royster et al. (1979: 92) were correct in stating that magnets in minority neighborhoods have trouble meeting their enrollment goals. Blank et al. (1983: 88) were thus wrong in concluding there is no significant correlation between magnet location and magnet desegregation success. The finding that minority schools are most difficult to desegregate is not a very policy relevant finding since minority schools have to be included in a desegregation plan.

We found, as did Royster et al. (1979: 92) that one-third of the magnet programs are in white locations. Another 21 percent are in integrated locations, presumably to stabilize their racial balance. The largest proportion of magnet programs -- 46 percent -- are in minority locations, but this is still less than we believe is optimal for the most efficient utilization of resources.

There are some discernible patterns in the location of particular magnet themes. Foreign language and multi-cultural/international magnets tend to be in white locations. The former are probably placed in white locations because of white demand for such programs. The latter may be placed in white locations because they are attractive to minorities. Early childhood and Montessori programs tend to be in minority locations. Such programs are thought to be very attractive to the kind of middle class whites who would transfer their child to a superior school in a minority neighborhood. Moreover, if the magnet fails to desegregate the school, it is still a form of educational enrichment for minority students.

The programs in minority neighborhoods with the highest percentage white are the basic skills/individualized and the fundamental programs. The programs with the lowest percentage white in these locations are the foreign language, extended day, and careers magnets. However, only the individualized/basic skills magnets remain significantly related to percentage white in a multiple regression equation when other variables are controlled for. Thus, this is the only magnet curriculum which does significantly better than the others in attracting whites regardless of its location. No magnet theme is differentially attractive to minorities when placed in white locations. It should be stressed that this analysis does not demonstrate that the magnet theme of a school is not important to individual parents, either black or white, only that overall, all but the individualized programs are equally popular.

The analysis presented here, consisting of 2/3 of the comprehensive magnet-voluntary desegregation plans in our sample, suggests that a magnet school plan based primarily on voluntary transfers will produce greater long-term interracial exposure than a mandatory reassignment plan with magnet components, probably because of the much greater white flight from the latter. Mandatory desegregation plans produce a large implementation year reduction in racial isolation and then begin to resegregate shortly thereafter. Magnet-voluntary plans, by contrast, typically start off more slowly, but continue to reduce racial isolation by a few percentage points a year. Around the third or fourth year of desegregation, the two trend lines cross and the magnet-voluntary plans in this sample produce greater interracial exposure over time than the mandatory plans, all other things being equal. This appears to be true regardless of the racial composition of a school district although it is clearest in those above 30 percent minority, and regardless of the extent of predesegregation interracial exposure. A pooled, cross-sectional analysis of these data found the differences between voluntary and mandatory plans to be statistically significant over time.

This analysis also shows that mandatory plans can be dismantled with no harm if they are replaced with a comprehensive voluntary plan whose goal is to at least maintain the prior level of racial balance. Returning to neighborhood schools and relying solely on an M to M program will probably produce some resegregation as it did in Oklahoma City.

The finding that voluntary plans produce more interracial exposure than mandatory plans over time and that mandatory plans can be dismantled without causing resegregation if they are replaced with comprehensive magnet-voluntary plans is contrary to even the most recent conclusions of the desegregation research. This is because this is the first study to both have interracial exposure as a dependent variable and more than one or two years of postimplementation data for magnet school plans.

The data presented here which group school districts into northern court ordered, southern court ordered, northern board ordered, and a control group, including voluntary and mandatory reassignment plans in each of these categories, shows that northern court ordered desegregation plans, on average, produce almost twice as much interracial exposure with the implementation of their desegregation plans as they lose in subsequent years as a result of white flight and the declining birth rate. Southern court ordered school districts, on average, produce five times as much interracial exposure as they lose in subsequent years. In short, the court ordered desegregation plans are not counterproductive, contrary to assertions made by the Reagan Administration. The northern board ordered school districts which began with more interracial exposure show only small increases with the implementation of their plans, on average. There are numerous exceptions, however, to these generalizations. There are court ordered school districts which have had little increase in interracial exposure and numerous board ordered school districts with large increases in interracial exposure. The control group, those with no identifiable desegregation plan, had a decline in interracial exposure during the period that other school districts were showing an increase due to implementation of a plan. They continued this pattern of declining interracial exposure in subsequent years.

These data also show that the courts have either not demanded, or have simply tolerated desegregation plans which do not produce 100 percent of the children in desegregated schools. This is true even in the low percentage minority school districts where it is theoretically possible.

Moreover, only half of the minority students in our court ordered school districts are in schools greater than 40 percent white. In northern court ordered school districts, almost 20 percent are in severely racially isolated school districts and in southern court ordered school districts almost 35 percent are in such schools. In terms of both the percentage of minority students in white schools and the percentage of minority students in severely racially isolated schools, the northern board ordered school districts achieve the greatest desegregation of all the districts with plans.

In virtually every comparison, we find more desegregation in the northern court ordered school districts than in the southern court ordered school districts in our sample. This is contrary to most descriptive national comparisons which compare all southern school districts to all northern school districts. By contrast, our sample is primarily composed of large school districts.

We also conclude that voluntary plans produce no less interracial exposure in big city, high proportion minority school districts than do mandatory plans, on average. In short, neither type of plan is a failure given the constraints one has to work with in such cities.

Minority Burden

One criticism of voluntary magnet school programs is that they place a heavier burden on minorities than they do on whites. Because more minorities than whites typically will choose to leave their home school for another school, it is argued they are "burdened" by such plans.[9] The evidence, however, suggests the differences are relatively small, on average, particularly where most of the magnet programs have been placed in minority schools. Moreover, once one controls for the differences in the size of each population, something that is rarely done, they may disappear altogether.[10]

Even if the differences in voluntary transfers do not disappear, we find the argument that minorities are burdened by their choices to be reasonable only if one assumes that black and Hispanic and Asian children and their parents do not know their own minds. Bennett (1986) similarly argues that the real burden in a choice process is the assignment of students to schools other than those chosen as a first choice by their parents.

Furthermore, we know of no mandatory plan which is any less "burdensome" than a voluntary plan and most are quite a bit more. When whites leave the school system in disproportionate numbers as may occur in a mandatory plan, blacks and Hispanics inevitably assume the busing burden. As noted above, the black plaintiffs in Boston wish to dismantle the mandatory plan and return to a voluntary plan because they see themselves as bearing the busing burden.

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[9] Interestingly, we find no evidence that the children who actually volunteer feel any disproportionate burden, indeed there is evidence to the contrary. The black parents of children in Buffalo's QIE (M to M) program asked to intervene in court in order to defend the program. The judge denied their request and the program was drastically curtailed and mandatory reassignments ordered in their place. The same parents who once had a choice as to the school they wished their child to attend, now were mandatorily reassigned. This was felt to be "equitable" because whites were also "burdened."

[10] For example, in San Jose the monitor's report (Arias, 1986) claims that 59 percent of the out-of-attendance area students are minority. Since 55 percent of the students are minority, however, the disparity is reduced from 10 to 5 percentage points when that is controlled for.

As long as there are differences in the preferences of whites and minorities, minorities will transfer more than whites. At least in a magnet school plan, they have choice. We see this as less "burdensome" than no choice. Moreover, we would argue that the whole "burden" issue has to be placed in the context of the goals of school desegregation. School desegregation is not an evil visited upon minority children which has to be equitably distributed, but a benefit whose goal is to improve, not white life chances, but minority life chances. In that context, a magnet-voluntary plan which gives minority children choice is an opportunity, not a burden, regardless of how many whites transfer.

Having said all this, we want to say that we believe that school administrators should do everything humanly possible to avoid the appearance of disproportionate burden, whether real or not, while also trying to maximize interracial exposure. Some policymakers may understandably be willing to trade off less interracial exposure for more symbolic equity.

Policy Recommendations

We recommend that school districts desegregate with comprehensive magnet-voluntary plans if they have a choice. Our data show that a comprehensive magnet-voluntary plan will produce more interracial exposure than a mandatory plan. In so doing, we believe it also enhances the reputation of the school system. This is particularly important in high proportion minority school systems.

Nevertheless, any proposed voluntary desegregation plan should be examined critically and with some skepticism because not just any voluntary plan will be successful. Voluntary plans should be both equitable and comprehensive. We believe the components of a voluntary plan that are necessary for maximizing interracial exposure are:

1. Racial controls on schools and on choices so that only transfers that promote desegregation are allowed.
2. Magnet school programs placed almost entirely in minority or integrated neighborhoods.
3. A "majority to minority" transfer program in which any student can transfer from any school in which his or her race is in a majority to any school in which his or her race is in a minority.
4. A variety of programs with a heavy emphasis on individualized, child centered, programs. Extended day programs should always be combined with another magnet theme if they are to be successful.
5. Expensive and aggressive publicity and recruitment, including individual phone calls to prospective parents where necessary.
6. Ambitious districtwide desegregation goals. We have no standard which we believe would be applicable to every school district. Clearly, what would be ambitious for Racine, Wisconsin would be impossible for Chicago. But, in each situation, we think most of the

parties involved will be able to agree as to what an ambitious districtwide desegregation goal is.

7. Elimination of attendance zones in small school districts. This is the foundation of the "controlled choice" plan as it is currently implemented in Montclair and Cambridge. It is not clear whether this innovation is transferable to large school districts, however.

We recommend that almost all magnet programs be placed in minority schools on two grounds -- efficiency and equity. On efficiency grounds, it makes sense to husband scarce resources by not placing magnet programs in white schools. We know from the research, as well as the successful magnet-voluntary plans implemented in Yonkers and San Jos in Fall 1986, that minority students will transfer to most white schools without any special magnet program being placed in them.[11] On equity grounds, it makes sense to place magnet programs almost entirely in minority schools because magnet schools raise the status of a school. To raise the status of already high status white schools seems inequitable to us. To raise the status of low status minority schools seems just to us. Of course, a school district may have low status white schools, or white schools with reputations as being inhospitable, and in such cases, a magnet program may be justified.

Magnet-voluntary plans are expensive. They cost substantially more than mandatory plans. Ultimately, however, we think the greater interracial exposure and the increase in positive feelings toward the school system justify the greater cost and effort.

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[11] On the other hand, we recommend extensive use of cooperative learning techniques in these, as well as the minority, schools.

A Note to Colleagues

The findings and conclusions of this report are likely to be controversial. As a result we have done what few social scientists do. We have provided school district by school district data in our appendices that would enable any researcher to replicate every analysis we have conducted except those on the effectiveness of individual programs in Chapter 3.

Appendix 1

COMMUNITY CHARACTERISTICS FOR 20 SCHOOL DISTRICTS, 1980

			MEDIAN INCOME *				MEDIAN EDUCATION			
VOLUNTARY	POPULATION	%WH	TOTAL	MINOR	BLACK	WHITE	TOTAL	MINOR	BLACK	WHITE
BUFFALO	357870	71	11593	9844	12037	17486	12.1	11.9	11.9	12.2
CINCINNATI	385457	80	12675	10880	9317	14453	12.3	13.1	11.5	12.5
HOUSTON	1595138	62	18474	16378	13480	20788	12.7	12.4	12.3	12.9
MILWAUKEE	636212	74	16028	13989	11961	17069	12.4	11.9	12.1	12.4
MONTCLAIR	38321	69	23375		16144	27312	14.2			
PORTLAND	366423	87	14782	12201	10981	15116	12.8	12.5	12.4	12.8
SAN DIEGO	875538	77	16408	18027	11985	17102	12.9	12.5	12.6	13.1
SAN BERNARDINO	117490	68	14095	12580	10863	15045	12.5	12.3	12.4	12.6
TACOMA	158501	84	14546	12420	13343	14775	12.5	12.5	12.6	12.5
AVERAGE	503439	75	15775	13290	12235	17683	12.7	12.4	12.2	12.6
MANDATORY										
BOSTON	562994	71	12530	9587	10277	13701	12.5	12.1	12.3	12.6
DALLAS	904078	61	16227	14130	12037	17987	12.7	11.9	12.3	12.9
DAYTON	203371	62	12146	13573	10573	12938	12.3	13.1	12.2	12.3
DES MOINES	191003	91	16716	12370	11737	17133	12.6	12.2	12.3	12.6
LOUISVILLE**	685004	86	16664	13771	10135	17786	12.4	12.9	12.1	12.4
MONTGOMERY CO.	579053	86	28987	22009	20735	30149	14.7	13.9	13.2	14.8
RACINE	85730	82	18437	16430	14400	19008	12.4	12.2	12.0	12.4
SPRINGFIELD	152319	77	13309	8819	11247	14217	12.3	10.5	12.2	12.4
STOCKTON, CA	149779	67	14791	11375	8732	16377	12.5	11.8	12.0	12.7
ST PAUL	270230	91	16029	11591	11005	16396	12.6	12.3	12.4	12.6
TULSA	360919	83	16872	13999	10849	17719	12.8	12.6	12.3	12.8
AVERAGE	376771	78	16610	13423	11975	17583	12.7	12.3	12.3	12.8
GRAND AVG	433772	76	16234	13367	12092	17628	12.7	12.3	12.3	12.7

* Household Income

** Jefferson County, Kentucky

Appendix 1 (cont.)

COMMUNITY CHARACTERISTICS FOR 20 SCHOOL DISTRICTS, 1980-70 CHANGE

			INCOME		EDUCATION	
VOLUNTARY	POPULATION	%WH	TOTAL	BLACK	TOTAL	BLACK
BUFFALO	-112658	-7	5025	6730	1.3	2.0
CINCINNATI	-67067	9	6264	4672	1.2	0.3
HOUSTON	363744	1	10418	8400	0.6	2.4
MILWAUKEE	-80887	-8	7890	5793	0.5	1.9
MONTCLAIR	-5722	-3	13742	9644	1.5	
PORTLAND	-16196	-3	8077	6176	0.5	1.1
SAN DIEGO	181607	1	10183	6828	0.4	0.9
SAN BERNARDINO	13239	-16	7247	5677	0.4	1.7
TACOMA	3920	-5	7253	6901	0.3	1.0
AVERAGE	31109	-3	8455	6758	0.8	1.4
MANDATORY						
BOSTON	-78077	-9	6609	5254	0.5	0.7
DALLAS	59675	-5	8243	6730	0.4	2.1
DAYTON	-40034	-7	4910	3742	0.9	1.4
DES MOINES	-9584	-1	9212	6379	0.2	0.8
LOUISVILLE**	-10051	0	8355	5403	0.8	2.0
MONTGOMERY CO.	56244	-5	14897	13275	0.9	0.3
RACINE	-9432	-3	9455	7856	0.5	2.4
SPRINGFIELD	-11586	-7	6011	5601	0.3	1.5
STOCKTON, CA	42135	9	8085	4744	0.4	2.0
ST PAUL	-39750	-2	8334	5911	0.4	1.2
TULSA	30510	-2	8641	7123	0.4	1.3
AVERAGE	-905	-3	8432	6547	0.5	1.4
GRAND AVG	13502	-3	8443	6642	0.6	1.4

Appendix 2

WHITE ENROLLMENT CHANGE OF VOLUNTARY AND MANDATORY DESEGREGATION PLANS

VOL.	% WH.DESEG. T-1	YEAR	T-9	T-8	T-7	T-6	T-5	T-4	T-3	T-2	T-1	T+0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9
>30% MINORITY																					
HOUSTON	38.5	1975			-0.1	-5.1	-4.2	-9.7	-8.6	-10.7	-7.2	-7.8	-4.9	-7.0	-10.6	-10.6	-8.1	-7.7	-6.5	-8.7	-7.5
BUFFALO	51.1	1976		-2.1	-3.2	-3.6	-5.1	-9.4	-7.8	-5.3	-8.7	-2.6	-4.6	-4.9	-8.0	-1.8	-2.0	-2.5	0.7	-4.3	-2.4
CINCINATTI	55.9	1970							-4.3	-4.3	-3.2	-3.3	-4.8	-7.0	-9.1	-7.5	-3.3	-7.4	-6.5	-8.1	-8.1
MONTCLAIR	56.9	1977	1.2	2.4	-7.6	-0.4	-8.7	-4.4	-3.5	-7.3	-1.9	-1.7	-3.2	-3.9	-4.2	-3.1	-0.6	-6.6	-2.4	-2.4	-2.4
SAN BERNARDINO	58.5	1978	-1.0	-3.0	-5.1	-6.4	-6.7	-2.4	-2.8	-0.2	-6.6	-8.5	-7.2	-4.4	-3.9	-1.7	-0.6	0.1	5.0	2.6	0.4
MILWAUKEE	60.1	1976		1.4	-1.7	-0.5	-4.0	-5.5	-6.6	-7.4	-6.0	-10.8	-12.7	-9.5	-11.1	-7.4	-6.0	-2.9	-4.8	-3.1	-1.4
SAN DIEGO	63.9	1977	2.5	-0.2	-0.9	-1.0	-4.6	-1.9	-2.3	-6.2	-4.3	-4.0	-6.3	-7.6	-7.1	-5.3	-4.7	-1.8	-2.8	-1.0	-1.9
AVER	54.9	1975	0.9	-0.3	-3.1	-2.8	-5.6	-5.6	-5.1	-5.9	-5.4	-5.5	-6.2	-6.3	-7.7	-5.3	-3.6	-4.1	-2.5	-3.6	-3.3
COUNT	7	7	3	5	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7
<30% MINORITY																					
PORTLAND	88.6	1970							-1.1	-1.1	-1.7	-2.7	-5.6	-6.8	-4.5	-5.0	-4.1	-5.2	-6.2	-5.1	-5.0
TACOMA	88.6	1968						-0.3	4.0	-2.0	5.6	-0.1	-1.4	-1.4	-3.6	-4.6	-2.3	-3.2	-3.7	-2.4	-3.0
AVER	88.6	1969						-0.3	1.5	-1.6	2.0	-1.4	-3.5	-4.1	-4.1	-4.8	-3.2	-4.2	-5.0	-3.8	-4.0
COUNT	2	2	0	0	0	0	0	1	2	2	2	2	2	2	2	2	2	2	2	2	2

MAND.	% WH.DESEG. T-1	YEAR	T-9	T-8	T-7	T-6	T-5	T-4	T-3	T-2	T-1	T+0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9
>30% MINORITY																					
STOCKTON	54.7	1975			-3.7	-0.6	-1.5	-3.1	-3.2	-5.2	-5.1	-13.9	-12.3	-2.7	-15.3	-5.6	-10.2	-1.5	-6.6	1.3	-4.4
DAYTON	51.1	1976		-11.7	-3.8	-5.0	-6.2	-8.4	-9.0	-6.2	-5.9	-17.5	-6.0	-8.4	-6.3	-6.0	-3.8	-4.7	-5.4	-3.3	-1.0
BOSTON	57.2	1974				-3.7	-2.9	-1.0	-4.2	-3.3	-6.6	-16.2	-16.6	-13.3	-5.9	-7.6	-14.1	-2.4	-17.7	-11.7	-8.5
DALLAS	57.3	1971							-1.4	-1.4	-2.2	-9.1	-8.8	-7.1	-8.5	-10.4	-11.2	-8.4	-7.0	-6.7	-7.3
SPRINGFIELD,M.	62.4	1974				-1.6	-2.6	-4.7	-4.2	-4.3	-6.8	-6.6	-3.4	-3.9	-4.9	-8.5	-6.2	-8.6	-5.7	-6.9	-4.1
AVER.	56.5	1974		-11.7	-3.8	-2.7	-3.3	-4.3	-4.4	-4.1	-5.3	-12.7	-9.4	-7.1	-8.2	-7.6	-9.1	-5.1	-8.5	-5.5	-5.1
COUNT	5	5	0	1	2	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5
<30% MINORITY																					
LOUISVILLE	77.9	1975			2.8	2.2	3.2	-0.6	-1.4	-3.0	-6.1	-11.6	-4.8	-6.4	-2.5	-8.4	1.6	-14.5	2.4	-9.3	-3.0
RACINE	80.5	1975			2.7	0.9	0.6	-1.2	-2.2	-2.7	-2.5	-6.6	-3.8	-8.7	-3.4	-5.8	-4.9	-4.5	-2.5	-2.9	-2.3
DES MOINES	87.1	1977	0.1	-1.7	-1.2	-2.6	-3.3	-3.2	-3.3	-4.0	-4.1	-4.8	-4.8	-5.1	-4.1	-3.5	-2.5	-2.6	-0.6	-0.3	-0.5
MONTGOMERY CO.	87.4	1976		1.7	2.0	-0.9	-0.1	-0.8	-0.7	-2.4	-3.1	-8.7	-4.4	-5.6	-6.4	-6.1	-5.9	-5.5	-3.4	-1.6	-0.7
TULSA	82.3	1971			-3.0	2.8	0.7	0.1	-3.8	-0.7	-2.8	-4.2	-7.4	-6.2	-5.3	-2.8	-6.4	-5.7	-7.3	-7.6	-7.5
ST. PAUL	88.4	1973					3.0	-4.9	2.2	-0.6	-3.7	-5.3	-12.2	-0.2	-10.0	-6.7	-8.3	-5.7	-6.2	-6.7	-5.4
AVER.	83.9	1975		0.0	0.7	0.5	0.7	-1.8	-1.5	-2.2	-3.7	-6.9	-6.2	-5.4	-5.3	-5.6	-4.4	-6.4	-2.9	-4.7	-3.2
COUNT	6	6	1	2	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Note: White enrollment change estimated for Cincinatti, Portland, and Dallas T-3, San Bernardino T+8 & T+9, San Diego and Des Moines T+9. T-3 is change from T+1 to T+2, T+8 & T+9 are estimated from change from T+6 to T+7.

Appendix 2 (cont.)

WHITE ENROLLMENT CHANGE OF VOLUNTARY AND MANDATORY DESEGREGATION PLANS

	% WH.	DESEG.								
VOL.	T-1	YEAR	T+10	T+11	T+12	T+13	T+14	T+15	T+16	T+17
>30% MINORITY										
HOUSTON	38.5	1975	-4.2							
BUFFALO	51.1	1976								
CINCINATTI	55.9	1970	-6.9	-2.3	-1.6	-1.8	-0.9	-1.3		
MONTCLAIR	56.9	1977								
SAN BERNARDINO	58.5	1978								
MILWAUKEE	60.1	1976								
SAN DIEGO	63.9	1977								
AVER	54.9	1975	-5.6	-2.3	-1.6	-1.8	-0.9	-1.3		
COUNT	7	7	2	1	1	1	1	1		
<30% MINORITY										
PORTLAND	88.6	1970	-3.1	-5.1	-1.5	0.4	0.3	-0.1		
TACOMA	88.6	1968	-6.6	-4.3	-4.5	-2.7	-1.6	-1.2	-1.6	1.0
AVER	88.6	1969	-4.9	-4.7	-3.0	-1.2	-0.7	-0.6	-0.8	0.5
COUNT	2	2	2	2	2	2	2	2	2	2

	% WH.	DESEG.								
MAND.	T-1	YEAR	T+10							
>30% MINORITY										
STOCKTON	54.7	1975	2.1							
DAYTON	51.1	1976								
BOSTON	57.2	1974	2.8	0.8						
DALLAS	57.3	1971	-9.1	-5.5	-5.7	-5.1	-4.8			
SPRINGFIELD,M.	62.4	1974	-1.3	-2.1						
AVER.	56.5	1974	-1.1	-2.3	-5.7	-5.1	-4.8			
COUNT	5	5	5	3	1	1	1			
<30% MINORITY										
LOUISVILLE	77.9	1975	-4.3							
RACINE	80.5	1975	-2.4							
DES MOINES	87.1	1977								
MONTGOMERY CO.	87.4	1976								
TULSA	82.3	1971	-3.7	-2.7	-4.0	-4.4	-1.9			
ST. PAUL	88.4	1973	-1.9	-1.6	1.2					
AVER.	83.9	1975	-3.1	-2.2	-1.4	-4.4	-1.9			
COUNT	6	6	4	2	2	1	1	1	0	0

Appendix 3a

INTERRACIAL EXPOSURE (Smw) OF VOLUNTARY AND MANDATORY DESEGREGATION PLANS

VOL.	% WH.DESEG. T-1	YEAR	T-9	T-8	T-7	T-6	T-5	T-4	T-3	T-2	T-1	T+0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9
>30% MINORITY																					
HOUSTON	38.5	1975		8.5	15.4	16.0	18.4	18.2	17.6	17.3	17.0	16.8	16.8	16.6	16.1	15.9	15.7	15.1	14.7	14.1	13.6
BUFFALO	51.1	1976	26.1	26.3	27.3	27.7	28.1	27.3	26.0	26.0	26.1	29.6	36.7	38.8	39.2	40.0	42.8	43.3	43.1	42.7	41.9
CINCINATTI	55.9	1970							26.5	25.9	25.5	24.6	23.6	22.4	21.1	21.8	23.3	24.1	23.8	24.2	25.6
MONTCLAIR	56.9	1977	48.9	55.3	49.2	53.4	57.5	56.6	55.8	54.4	55.3	55.1	54.8	54.3	53.2	50.8	51.4	51.0	51.4	51.7	52.0
SAN BERNARDINO	58.5	1978	44.5	45.6	48.2	49.6	47.6	48.7	47.6	48.6	47.4	48.2	48.5	47.9	46.7	46.0	44.7	43.4	42.5	41.6	42.5
MILWAUKEE	60.1	1976	21.3	23.0	20.8	22.8	21.6	21.7	23.2	23.9	24.2	35.1	39.4	39.1	38.6	37.2	35.8	35.4	33.6	32.4	31.3
SAN DIEGO	63.9	1977	43.4	43.6	45.4	45.3	45.8	45.8	47.5	45.2	43.9	44.4	44.7	44.1	43.4	42.5	41.9	41.1	39.8	39.1	38.4
AVER	54.9	1975	36.8	33.7	34.3	35.7	36.4	36.3	34.9	34.4	34.2	36.2	37.7	37.6	36.8	36.3	36.5	36.2	35.5	35.0	35.0
COUNT	7	7	5	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7
<30% MINORITY																					
PORTLAND	88.6	1970							58.4	62.4	62.5	63.8	62.4	67.2	67.9	67.7	68.4	70.0	68.7	68.3	66.8
TACOMA	88.6	1968					62.2	62.5	63.3	62.6	62.9	72.4	73.9	76.9	78.6	79.1	77.7	77.1	75.3	75.4	74.6
AVER	88.6	1969					62.2	62.5	60.8	62.5	62.7	68.1	68.1	72.0	73.2	73.3	73.0	73.5	71.9	71.8	70.6
COUNT	2	2	0	0	0	0	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2

MAND.	% WH.DESEG. T-1	YEAR	T-9	T-8	T-7	T-6	T-5	T-4	T-3	T-2	T-1	T+0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9
>30% MINORITY																					
STOCKTON	54.7	1975		36.0	40.1	40.4	40.8	39.9	40.6	40.9	40.3	37.1	36.7	41.7	38.7	36.0	34.3	32.2	29.7	28.7	26.9
DAYTON	51.1	1976	9.2	12.1	13.5	14.8	15.4	17.5	19.3	19.8	21.3	44.6	42.0	41.6	39.8	40.0	38.7	39.3	38.3	37.2	37.0
BOSTON	57.2	1974			33.6	29.6	27.1	25.7	23.8	24.9	23.8	33.1	39.7	36.5	35.5	33.7	31.1	29.6	27.0	25.2	23.6
DALLAS	57.3	1971							14.5	14.3	14.0	20.7	21.3	21.4	20.7	20.2	23.9	22.7	21.9	21.5	20.5
SPRINGFIELD,M.	62.4	1974			53.2	55.0	53.7	50.8	49.4	48.3	46.2	54.4	52.0	52.0	50.5	47.8	46.1	43.6	42.9	41.2	39.2
AVER.	56.5	1974	9.2	24.0	35.1	35.0	34.3	33.5	29.5	29.6	29.1	38.0	38.3	38.6	37.0	35.5	34.8	33.5	32.0	30.8	29.4
COUNT	5	5	1	2	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5
<30% MINORITY																					
LOUISVILLE	77.9	1975		24.2	24.4	22.4	22.0	22.4	21.8	23.5	24.6	68.5	69.1	69.7	67.7	68.4	67.9	70.6	65.2	65.3	65.4
RACINE	80.5	1975		55.9	57.6	56.9	58.4	59.6	59.6	60.2	61.8	76.3	75.5	74.1	70.8	72.6	71.1	71.1	71.5	70.6	69.2
DES MOINES	87.1	1977	63.5	67.4	66.5	64.3	61.3	63.4	64.7	71.7	73.9	78.9	77.8	77.2	75.7	76.0	75.3	75.4	75.8	76.1	76.4
MONTGOMERY CO.	87.4	1976	85.8	88.0	86.9	84.7	84.4	84.0	81.8	80.3	78.6	77.3	76.9	75.5	73.4	70.9	68.0	66.6	65.2	63.4	62.0
TULSA	82.3	1971						13.2	36.4	36.6	36.9	46.8	49.8	51.1	49.6	48.5	47.0	46.3	44.7	44.3	45.3
ST. PAUL	88.4	1973				72.7	72.9	70.6	68.7	67.2	66.2	67.0	72.6	75.0	75.7	75.5	74.0	70.3	67.4	64.3	63.5
AVER.	83.9	1975	74.7	58.9	58.8	60.2	59.8	52.2	55.5	56.6	57.0	69.1	70.3	70.4	68.8	68.7	67.2	66.7	65.0	64.0	63.6
COUNT	6	6	2	4	4	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Note: San Bernardino T+8 and T+9 and San Diego and Des Moines T+9 are estimated.
T+8 & T+9 are estimated from change T+6 to T+7.

Appendix 3a (cont.)

INTERRACIAL EXPOSURE (Smw) OF VOLUNTARY AND MANDATORY DESEGREGATION PLANS

VOL.	% WH.DESEG. T-1	YEAR	T+10	T+11	T+12	T+13	T+14	T+15	T+16	T+17
>30% MINORITY										
HOUSTON	38.5	1975	12.8							
BUFFALO	51.1	1976								
CINCINATTI	55.9	1970	26.7	27.1	27.4	28.3	29.0	29.1		
MONTCLAIR	56.9	1977								
SAN BERNARDINO	58.5	1978								
MILWAUKEE	60.1	1976								
SAN DIEGO	63.9	1977								
AVER	54.9	1975	19.7	27.0	27.4	28.2	28.9	29.0		
COUNT	7	7	2	1	1	1	1	1		
<30% MINORITY										
PORTLAND	88.6	1970	64.3	61.5	61.6	62.5	61.9	61.8		
TACOMA	88.6	1968	73.2	71.9	71.2	70.2	69.4	68.8	67.8	67.2
AVER	88.6	1969	68.7	66.6	66.3	66.3	65.6	68.8	67.8	67.1
COUNT	2	2	2	2	2	2	2	1	1	1

MAND.	% WH.DESEG. T-1	YEAR	T+10				
>30% MINORITY							
STOCKTON	54.7	1975	25.8				
DAYTON	51.1	1976					
BOSTON	57.2	1974	23.3	22.9			
DALLAS	57.3	1971	19.2	18.8	18.0	16.5	15.5
SPRINGFIELD,M.	62.4	1974	38.9	39.5			
AVER.	56.5	1974	26.8	27.1	18.0	16.5	15.5
COUNT	5	5	4	3	1	1	1
<30% MINORITY							
LOUISVILLE	77.9	1975	70.4				
RACINE	80.5	1975	68.1				
DES MOINES	87.1	1977					
MONTGOMERY CO.	87.4	1976					
TULSA	82.3	1971	46.2	46.2	47.7	47.3	46.0
ST. PAUL	88.4	1973	62.6	61.5	62.3		
AVER.	83.9	1975	61.8	53.8	55.0	47.3	46.0
COUNT	6	6	4	2	2	1	1

Appendix 3b

INTERRACIAL EXPOSURE (Smw) OF VOLUNTARY AND MANDATORY DESEGREGATION PLANS WITH HOUSTON AND MONTCLAIR ADJUSTED PREDESEGREGATION

VOL.	% WH.DESEG. T-1	YEAR	T-9	T-8	T-7	T-6	T-5	T-4	T-3	T-2	T-1	T+0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9
>30% MINORITY																					
HOUSTON	38.5	1975		8.5	15.4	16.0	15.8	15.6	15.4	15.2	15.0	16.8	16.8	16.6	16.1	15.9	15.7	15.1	14.7	14.1	13.6
BUFFALO	51.1	1976	26.1	26.3	27.3	27.7	28.1	27.3	26.0	26.0	26.1	29.6	36.7	38.8	39.2	40.0	42.8	43.3	43.1	42.7	41.9
CINCINATTI	55.9	1970							26.5	25.9	25.5	24.6	23.6	22.4	21.1	21.8	23.3	24.1	23.8	24.2	25.6
MONTCLAIR	56.9	1977	48.9	49.1	49.2	49.0	48.8	48.6	48.4	48.2	48.0	55.1	54.8	54.3	53.2	50.8	51.4	51.0	51.4	51.7	52.0
SAN BERNARDINO	58.5	1978	44.5	45.6	48.2	49.6	47.6	48.7	47.6	48.6	47.4	48.2	48.5	47.9	46.7	46.0	44.7	43.4	42.5	41.6	42.5
MILWAUKEE	60.1	1976	21.3	23.0	20.8	22.8	21.6	21.7	23.2	23.9	24.2	35.1	39.4	39.1	38.6	37.2	35.8	35.4	33.6	32.4	31.3
SAN DIEGO	63.9	1977	43.4	43.6	45.4	45.3	45.8	45.8	47.5	45.2	43.9	44.4	44.7	44.1	43.4	42.5	41.9	41.1	39.8	39.1	38.4
AVER	54.9	1975	36.8	32.6	34.3	35.0	34.6	34.6	33.5	33.2	32.8	36.2	37.7	37.6	36.8	36.3	36.5	36.2	35.5	35.0	35.0
COUNT	7	7	5	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7
<30% MINORITY																					
PORTLAND	88.6	1970							58.4	62.4	62.5	63.8	62.4	67.2	67.9	67.7	68.4	70.0	68.7	68.3	66.8
TACOMA	88.6	1968					62.2	62.5	63.3	62.6	62.9	72.4	73.9	76.9	78.6	79.1	77.7	77.1	75.3	75.4	74.6
AVER	88.6	1969					62.2	62.5	60.8	62.5	62.7	68.1	68.1	72.0	73.2	73.3	73.0	73.5	71.9	71.8	70.6
COUNT	2	2	0	0	0	0	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2

MAND.	% WH.DESEG. T-1	YEAR	T-9	T-8	T-7	T-6	T-5	T-4	T-3	T-2	T-1	T+0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9
>30% MINORITY																					
STOCKTON	54.7	1975		36.0	40.1	40.4	40.8	39.9	40.6	40.9	40.3	37.1	36.7	41.7	38.7	36.0	34.3	32.2	29.7	28.7	26.9
DAYTON	51.1	1976	9.2	12.1	13.5	14.8	15.4	17.5	19.3	19.8	21.3	44.6	42.0	41.6	39.8	40.0	38.7	39.3	38.3	37.2	37.0
BOSTON	57.2	1974			33.6	29.6	27.1	25.7	23.8	24.9	23.8	33.1	39.7	36.5	35.5	33.7	31.1	29.6	27.0	25.2	23.6
DALLAS	57.3	1971							14.5	14.3	14.0	20.7	21.3	21.4	20.7	20.2	23.9	22.7	21.9	21.5	20.5
SPRINGFIELD,M.	62.4	1974			53.2	55.0	53.7	50.8	49.4	48.3	46.2	54.4	52.0	52.0	50.5	47.8	46.1	43.6	42.9	41.2	39.2
AVER.	56.5	1974	9.2	24.0	35.1	35.0	34.3	33.5	29.5	29.6	29.1	38.0	38.3	38.6	37.0	35.5	34.8	33.5	32.0	30.8	29.4
COUNT	5	5	1	2	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5
<30% MINORITY																					
LOUISVILLE	77.9	1975		24.2	24.4	22.4	22.0	22.4	21.8	23.5	24.6	68.5	69.1	69.7	67.7	68.4	67.9	70.6	65.2	65.3	65.4
RACINE	80.5	1975		55.9	57.6	56.9	58.4	59.6	59.6	60.2	61.8	76.3	75.5	74.1	70.8	72.6	71.1	71.1	71.5	70.6	69.2
DES MOINES	87.1	1977	63.5	67.4	66.5	64.3	61.3	63.4	64.7	71.7	73.9	78.9	77.8	77.2	75.7	76.0	75.3	75.4	75.8	76.1	76.4
MONTGOMERY CO.	87.4	1976	85.8	88.0	86.9	84.7	84.4	84.0	81.8	80.3	78.6	77.3	76.9	75.5	73.4	70.9	68.0	66.6	65.2	63.4	62.0
TULSA	82.3	1971						13.2	36.4	36.6	36.9	46.8	49.8	51.1	49.6	48.5	47.0	46.3	44.7	44.3	45.3
ST. PAUL	88.4	1973				72.7	72.9	70.6	68.7	67.2	66.2	67.0	72.6	75.0	75.7	75.5	74.0	70.3	67.4	64.3	63.5
AVER.	83.9	1975	74.7	58.9	58.8	60.2	59.8	52.2	55.5	56.6	57.0	69.1	70.3	70.4	68.8	68.7	67.2	66.7	65.0	64.0	63.6
COUNT	6	6	2	4	4	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Note: San Bernardino T+8 and T+9 and San Diego and Des Moines T+9 are estimated.
T+8 & T+9 are estimated from change T+6 to T+7.

Appendix 4a

RACIAL IMBALANCE (Dm) OF VOLUNTARY AND MANDATORY DESEGREGATION PLANS

VOL.	% WH.DESEG.																				
	T-1	YEAR	T-9	T-8	T-7	T-6	T-5	T-4	T-3	T-2	T-1	T+0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9
>30% MINORITY																					
HOUSTON	38.5	1975		90.9	80.4	79.1	74.9	73.7	72.7	71.3	70.5	69.6	68.2	67.3	66.0	64.2	62.1	60.5	59.3	58.3	57.4
BUFFALO	51.1	1976	68.9	67.2	65.5	64.6	63.1	63.0	63.5	62.7	61.0	55.3	42.5	35.4	31.6	28.4	18.7	17.5	16.6	15.9	16.9
CINCINATTI	55.9	1970							66.3	65.8	64.8	66.4	67.7	69.4	70.6	68.5	66.5	64.0	63.4	61.0	56.5
MONTCLAIR	56.9	1977	32.6	28.8	30.9	24.4	12.9	13.1	13.1	14.5	12.3	8.0	6.1	6.7	5.4	8.2	5.5	4.8	3.4	3.9	4.3
SAN BERNARDINO	58.5	1978	47.2	44.5	38.3	36.0	37.2	36.3	35.0	33.6	33.2	28.9	22.8	20.4	20.6	19.0	18.9	20.5	20.9	21.3	21.7
MILWAUKEE	60.1	1976	81.0	79.0	79.8	78.5	76.8	76.1	73.6	72.0	71.1	51.3	39.4	36.9	33.0	32.8	33.1	32.5	32.7	31.5	31.4
SAN DIEGO	63.9	1977	56.7	56.9	54.6	54.5	52.7	51.9	49.6	48.1	48.1	45.4	43.1	40.8	38.2	35.4	34.3	34.0	34.3	34.2	34.1
AVER	54.9	1976	57.2	61.2	58.2	56.2	52.9	52.3	53.3	52.5	51.5	46.3	41.3	39.5	37.9	36.6	34.1	33.3	32.9	32.2	31.7
COUNT	7	7	5	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7
<30% MINORITY																					
PORTLAND	88.0	1970							55.8	53.6	50.5	51.3	51.2	43.6	39.9	40.3	38.7	35.1	33.8	31.9	32.4
TACOMA	88.6	1968					57.4	54.3	50.3	53.5	54.3	38.2	34.5	29.1	27.0	26.6	28.9	28.2	26.9	26.7	25.6
AVER	88.3	1969					57.4	54.2	53.0	53.5	52.3	44.7	42.8	36.3	33.4	33.4	33.7	31.6	30.3	29.2	28.9
COUNT	2	2	0	0	0	0	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2

MAND.	% WH.DESEG.																				
	T-1	YEAR	T-9	T-8	T-7	T-6	T-5	T-4	T-3	T-2	T-1	T+0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9
>30% MINORITY																					
STOCKTON	48.4	1975		57.7	54.4	52.6	51.3	51.4	49.2	48.2	46.3	42.0	37.7	21.2	21.7	23.6	21.8	20.6	22.7	22.9	22.7
DAYTON	51.1	1976	91.0	86.3	84.6	82.5	80.8	78.1	74.3	71.8	69.2	22.1	24.4	23.0	25.5	21.4	24.1	18.8	19.3	19.9	21.0
BOSTON	57.2	1974			68.9	70.7	71.4	72.4	73.4	70.8	70.4	50.6	30.9	32.8	29.7	29.2	30.9	30.8	31.4	31.6	32.6
DALLAS	57.3	1971							84.4	83.9	83.6	73.2	70.4	68.5	68.1	66.6	55.5	54.7	54.4	53.2	53.2
SPRINGFIELD,M.	62.4	1974			50.9	45.8	45.6	46.3	45.4	45.5	45.2	27.5	28.3	28.1	27.5	28.5	29.6	30.7	30.6	30.8	31.7
AVER.	55.2	1974	91.0	72.0	64.7	62.9	62.3	62.0	65.4	64.0	62.9	43.1	38.3	34.7	34.5	33.9	32.4	31.1	31.7	31.7	32.2
COUNT	5	5	1	2	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5
<30% MINORITY																					
LOUISVILLE	77.9	1975		80.0	79.4	81.1	82.0	81.6	82.0	80.3	78.2	27.4	21.6	20.6	22.0	20.3	18.6	14.4	20.8	19.9	19.0
RACINE	80.5	1975		58.9	55.5	56.5	51.8	49.1	47.2	44.4	37.9	17.3	18.2	18.6	20.4	18.8	18.7	15.5	13.1	12.9	13.3
DES MOINES	87.1	1977	61.6	57.5	57.4	56.3	57.8	55.9	53.7	44.4	39.4	34.1	36.2	34.5	34.2	32.5	32.3	33.2	32.5	32.7	28.7
MONTGOMERY CO.	87.4	1976	59.5	34.9	33.8	35.0	31.0	29.3	31.6	30.9	30.6	25.3	25.0	25.7	26.4	27.3	28.2	28.1	28.6	28.7	29.2
TULSA	82.3	1971		92.6	94.2	92.3	92.1	91.0	65.3	65.3	67.0	60.7	59.7	57.6	55.6	56.4	56.5	55.8	54.9	53.8	51.7
ST. PAUL	88.4	1973				51.7	50.4	51.3	51.3	50.9	49.7	48.2	42.9	40.8	32.9	30.1	29.0	30.1	26.9	25.8	24.4
AVER.	83.9	1975	60.6	64.8	64.1	62.1	60.9	59.7	55.1	52.7	50.4	35.5	33.9	33.0	31.9	30.9	30.5	29.5	29.5	29.0	27.7
COUNT	6	6	2	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Note: San Bernardino T+8 and T+9 and San Diego and Des Moines T+9 are estimated.
T+8 & T+9 are estimated from change T+6 to T+7.

Appendix 4a (Cont.)

RACIAL IMBALANCE (Dm) OF VOLUNTARY AND MANDATORY DESEGREGATION PLANS

VOL.	% WH.DESEG. T-1	YEAR	T+10	T+11	T+12	T+13	T+14	T+15	T+16	T+17
>30% MINORITY										
HOUSTON	38.5	1975	57.4							
BUFFALO	51.1	1976								
CINCINATTI	55.9	1970	52.1	51.0	50.0	48.2	45.6	44.7		
MONTCLAIR	56.9	1977								
SAN BERNARDINO	58.5	1978								
MILWAUKEE	60.1	1976								
SAN DIEGO	63.9	1977								
AVER	54.9	1976	54.7	25.5	50.0	48.1	45.6	44.6		
COUNT	7	7	2	2	1	1	1	1		
<30% MINORITY										
PORTLAND	88.0	1970	33.9	33.5	35.0	35.3	36.5	36.3		
TACOMA	88.6	1968	25.5	25.6	23.7	21.8	22.2	21.1	21.3	21.6
AVER	88.3	1969	29.7	29.5	29.3	28.5	29.3	28.6	21.2	21.6
COUNT	2	2	2	2	2	2	2	2	1	1

MAND.	% WH.DESEG. T-1	YEAR	T+10				
>30% MINORITY							
STOCKTON	48.4	1975	22.6				
DAYTON	51.1	1976					
BOSTON	57.2	1974	33.8	35.9			
DALLAS	57.3	1971	52.4	51.2	51.7	54.3	54.5
SPRINGFIELD,M.	62.4	1974	32.2	29.6			
AVER.	55.2	1974	35.3	38.9	51.7	54.3	54.5
COUNT	5	5	4	3	1	1	1
<30% MINORITY							
LOUISVILLE	77.9	1975	14.8				
RACINE	80.5	1975	13.9				
DES MOINES	87.1	1977					
MONTGOMERY CO.	87.4	1976					
TULSA	82.3	1971	49.3	48.5	45.3	45.0	45.1
ST. PAUL	88.4	1973	24.2	24.6	19.9		
AVER.	83.9	1975	25.6	36.5	32.6	45.0	45.1
COUNT	6	6	4	2	2	1	1

Appendix 4b

RACIAL IMBALANCE (Dm) OF VOLUNTARY AND MANDATORY DESEGREGATION PLANS WITH HOUSTON AND MONTCLAIR ADJUSTED PREDESEGREGATION

VOL.	% WH. T-1	DESEG. YEAR	T-9	T-8	T-7	T-6	T-5	T-4	T-3	T-2	T-1	T+0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9
>30% MINORITY																					
HOUSTON	38.5	1975		90.9	80.4	79.1	77.8	76.5	75.2	73.9	72.6	69.6	68.2	67.3	66.0	64.2	62.1	60.5	59.3	58.3	57.4
BUFFALO	51.1	1976	68.9	67.2	65.5	64.6	63.1	63.0	63.5	62.7	61.0	55.3	42.5	35.4	31.6	28.4	18.7	17.5	16.6	15.9	16.9
CINCINATTI	55.9	1970							66.3	65.8	64.8	66.4	67.7	69.4	70.6	68.5	66.5	64.0	63.4	61.0	56.5
MONTCLAIR	56.9	1977	32.6	28.8	30.9	28.8	26.7	24.6	22.5	20.4	18.3	8.0	6.1	6.7	5.4	8.2	5.5	4.8	3.4	3.9	4.3
SAN BERNARDINO	58.5	1978	47.2	44.5	38.3	36.0	37.2	36.3	35.0	33.6	33.2	28.9	22.8	20.4	20.6	19.0	18.9	20.5	20.9	21.3	21.7
MILWAUKEE	60.1	1976	81.0	79.0	79.8	78.5	76.8	76.1	73.6	72.0	71.1	51.3	39.4	36.9	33.0	32.8	33.1	32.5	32.7	31.5	31.4
SAN DIEGO	63.9	1977	56.7	56.9	54.6	54.5	52.7	51.9	49.6	48.1	48.1	45.4	43.1	40.8	38.2	35.4	34.3	34.0	34.3	34.2	34.1
AVER	54.9	1976	57.2	61.2	58.2	56.9	55.6	54.7	55.1	53.7	52.7	46.3	41.3	39.5	37.9	36.6	34.1	33.3	32.9	32.2	31.7
COUNT	7	7	5	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7
<30% MINORITY																					
PORTLAND	88.0	1970							55.8	53.6	50.5	51.3	51.2	43.6	39.9	40.3	38.7	35.1	33.8	31.9	32.4
TACOMA	88.6	1968					57.4	54.3	50.3	53.5	54.3	38.2	34.5	29.1	27.0	26.6	28.9	28.2	26.9	26.7	25.6
AVER	88.3	1969					57.4	54.2	53.0	53.5	52.3	44.7	42.8	36.3	33.4	33.4	33.7	31.6	30.3	29.2	28.9
COUNT	2	2	0	0	0	0	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2

MAND.	% WH. T-1	DESEG. YEAR	T-9	T-8	T-7	T-6	T-5	T-4	T-3	T-2	T-1	T+0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9
>30% MINORITY																					
STOCKTON	48.4	1975		57.7	54.4	52.6	51.3	51.4	49.2	48.2	46.3	42.0	37.7	21.2	21.7	23.6	21.8	20.6	22.7	22.9	22.7
DAYTON	51.1	1976	91.0	86.3	84.6	82.5	80.8	78.1	74.3	71.8	69.2	22.1	24.4	23.0	25.5	21.4	24.1	18.8	19.3	19.9	21.0
BOSTON	57.2	1974			68.9	70.7	71.4	72.4	73.4	70.8	70.4	50.6	30.9	32.8	29.7	29.2	30.9	30.8	31.4	31.6	32.6
DALLAS	57.3	1971							84.4	83.9	83.6	73.2	70.4	68.5	68.1	66.6	55.5	54.7	54.4	53.2	53.2
SPRINGFIELD,M.	62.4	1974			50.9	45.8	45.6	46.3	45.4	45.5	45.2	27.5	28.3	28.1	27.5	28.5	29.6	30.7	30.6	30.8	31.7
AVER.	55.2	1974	91.0	72.0	64.7	62.9	62.3	62.0	65.4	64.0	62.9	43.1	38.3	34.7	34.5	33.9	32.4	31.1	31.7	32.7	32.2
COUNT	5	5	1	2	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5
<30% MINORITY																					
LOUISVILLE	77.9	1975		80.0	79.4	81.1	82.0	81.6	82.0	80.3	78.2	27.4	21.6	20.6	22.0	20.3	18.6	14.4	20.8	19.9	19.0
RACINE	80.5	1975		58.9	55.5	56.5	51.8	49.1	47.2	44.4	37.9	17.3	18.2	18.6	20.4	18.8	18.7	15.5	13.1	12.9	13.3
DES MOINES	87.1	1977	61.6	57.5	57.4	56.3	57.8	55.9	53.7	44.4	39.4	34.1	36.2	34.5	34.2	32.5	32.3	33.2	32.5	32.7	28.7
MONTGOMERY CO.	87.4	1976	59.5	34.9	33.8	35.0	31.0	29.3	31.6	30.9	30.6	25.3	25.0	25.7	26.4	27.3	28.2	28.1	28.6	28.7	29.2
TULSA	82.3	1971		92.6	94.2	92.3	92.1	91.0	65.3	65.3	67.0	60.7	59.7	57.6	55.6	56.4	56.5	55.8	54.9	53.8	51.7
ST. PAUL	88.4	1973				51.7	50.4	51.3	51.3	50.9	49.7	48.2	42.9	40.8	32.9	30.1	29.0	30.1	26.9	25.8	24.4
AVER.	83.9	1975	60.6	64.8	64.1	62.1	60.9	59.7	55.1	52.7	50.4	35.5	33.9	33.0	31.9	30.9	30.5	29.5	29.5	28.4	27.1
COUNT	6	6	2	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Note: San Bernardino T+8 and T+9 and San Diego and Des Moines T+9 are estimated.
T+8 & T+9 are estimated from change T+6 to T+7.

Appendix 5

Enrollment Data in 119 School Districts

		1970		1984		
	DESEG YEAR	ENROLL.	% WHITE	ENROLL.		% WHITE
NORTHERN COURT/ HEW ORDERED						
Baltimore, MD (City)	1974	192458	32.9	113320		19.8
Boston, MA	1974	96696	64.1	59981		28.1
Buffalo, NY*	1976	70305	58.3	46042		44.9
Chicago, IL*	1982	577679	34.6	96468		12.7
Cleveland, OH	1979	153619	40.3	76712		25.9
Columbus, OH	1979	109329	72.7	67202		54.4
Dayton, OH	1976	56609	59.0	29649		39.4
Denver, CO	1974	97928	61.7	59867		38.2
Detroit, MI	1975	284396	34.5	191699		10.4
Erie, PA	1975	20847	85.2	13207	***	72.4
Evansville, IN	1972	33779	91.2	22600		86.3
Flint, MI*	1978	45659	58.0	30952		34.2
Indianapolis, IN	1973	106239	63.8	53087		53.0
Kansas City, KS	1980	34387	65.4	22937		45.6
Lansing,MI	1972	32559	81.0	23825	***	62.5
Las Vegas, NV (Clark)	1972	73822	82.8	88679	***	75.5
Los Angeles, CA*	1981	642895	50.4	563007		19.7
Los Angeles, CA*	1978					
Milwaukee, WI*	1976	132349	70.3	87308		39.0
Minneapolis, MN	1973	66938	87.0	37649		61.9
Oklahoma City, OK	1972	70042	72.1	40385		49.6
Omaha, NE	1976	63516	79.3	41669		68.3
Pasadena, CA	1970	29114	54.8	22283		24.3
Philadelphia, PA*	1978	279829	36.4	197647		25.4
Pittsburgh, PA	1980	73481	59.4	40140		46.6
Pontiac, MI	1971	24055	62.2	16552		40.0
San Bernard., CA*	1978	37691	64.5	29413		46.1
San Diego, CA*	1977	128783	75.4	109829		47.7
San Francisco, CA	1971	91150	36.9	65032		16.2
South Bend, IN	1981	35983	82.3	21667		68.1
Springfield, IL	1976	23222	88.1	14649		74.9
Springfield, MA	1974	31346	71.8	22773		45.3
St. Louis, MO	1980	111233	34.1	53189		21.0
Stockton, CA	1975	32285	59.3	26660		28.4
Tucson, AZ	1978	57346	66.9	53264		58.3
Tulsa, OK	1971	77822	82.3	44833		66.2
Waterbury, CT	1973	17826	73.2	13225		54.4
Waukegan, IL	1968	14931	73.5	12023	***	48.9
Wichita, KS	1971	63811	82.9	44354		70.6
Wilmington, DE ****	1978	15178	19.3	13511		62.2
AVERAGE	1975	105311	63.3	65828		45.8
MINIMUM	1968	14931	19.3	12023		10.4
MAXIMUM	1982	642895	91.2	563007		86.3
COUNT	40	39	39.0	39		39

Appendix 5 (cont.)

	DESEG YEAR	1970 ENROLL.	1970 % WHITE	1984 ENROLL.		1984 % WHITE
SOUTHERN COURT/ HEW ORDERED						
Amarillo, TX	1972	28784	85.8	27105	***	73.2
Atlanta, GA	1973	105598	31.3	66871		7.6
Austin, TX	1980	54974	64.4	58513		50.6
Baton Rouge, LA (East B. R.)	1981	64198	61.0	55441		46.4
Birmingham, AL	1970	61994	45.4	44207		18.3
Charlotte, NC (Mecklenburg)	1970	82507	68.9	71191		58.7
Dallas, TX	1971	164736	57.3	128266		23.3
Fort Worth, TX	1971	88095	63.7	65378		39.4
Houston*	1975	241139	49.4	187031		19.0
Houston	1970					
Jacksonville, FL (Duval)	1970	122493	70.6	99582		60.8
Lexington, KY (Fayette)	1972	36237	82.3	30004		77.6
Louisville, KY (Jefferson)	1975	146651	80.1	91912		69.0
Lubbock, TX	1978	33585	65.3	28939		52.8
Memphis, TN	1973	148304	48.4	73291		21.3
Miami, FL (Dade)	1970	240447	53.8	228062		26.6
Mobile, AL (County)	1970	69791	55.4	67093		55.0
Montgomery, AL (County)	1970	37651	54.5	35193		43.2
Nashville, TN (Davidson)	1971	95313	75.1	63030		62.4
New Orleans, LA (Orleans)	1974	109856	28.6	82968		9.2
Port Arthur, TX*	1981	16016	50.8	11923		31.9
Shreveport, LA (Caddo)	1970	53866	50.7	48645		43.9
St. Petersburg, FL (Pinellas	1970	85117	83.3	84491	***	80.8
Tampa, FL (Hillsborough)	1971	105347	73.8	110798		72.2
Tyler, TX	1970	16209	68.7	15861	***	60.3
Waco, TX	1971	18360	65.5	13609	***	41.8
AVERAGE	1973	89091	61.4	71576		45.8
MINIMUM	1970	16016	28.6	11923		7.6
MAXIMUM	1981	241139	85.8	228062		80.8
COUNT	26	25	25	25		25
NORTHERN BOARD ORDERED						
Akron, OH	1977	56426	72.4	35006		61.5
Ann Arbor, MI	1965	19985	88.7	14557	+	75.3
Berkeley, CA	1968	15908	45.1	8977		42.7
Bridgeport, CT	1980	24682	46.6	19662		19.4
Cambridge, MA	1980					
Cambridge, MA*	1982	10208	81.5	7727		55.5
Cincinatti, OH*	1970	84199	54.7	52479		40.5
Colorado Spgs, CO	1971	33025	83.6	29923		81.5
Des Moines, IA	1977	45375	90.7	30528		82.2
E. St. Louis, IL	1967	23084	21.4	19345		2.2
Fort Wayne, IN	1971	43400	83.8	32172		74.4
Gary, IN	1967	46595	26.0	29372		3.3
Grand Rapids, MI	1968	34533	74.9	25438	***	56.8
Hamilton, OH	1980	15002	89.8	10700		87.8

Appendix 5 (cont.)

	DESEG YEAR	1970 ENROLL.	1970 % WHITE	1984 ENROLL.	1984 % WHITE
NORTHERN BOARD ORDERED					
Hartford, CT	1981	28754	33.2	23581	11.7
Jersey City, NJ	1976	38430	39.0	31017	16.2
Kansas City, MO	1977	70503	49.8	36228	26.5
Lima, OH (1984)	1976	10583	73.8	7302	*** 62.8
Montclair (to '76)	1971				
Montclair, NJ*	1977	7724	61.8	5429	51.5
Montgomery Co, MD	1976	125343	91.6	91171	71.3
Muncie, IN	1972	17964	88.1	10744	84.0
New Haven, CT	1966	21323	37.0	17071	19.8
New York, NY	1964	1140359	38.3	931768	22.8
Niagara Falls, NY	1970	17247	81.2	9679	*** 72.4
Peoria, IL	1968	26140	79.8	18022	58.6
Portland, OR*	1970	76206	88.0	50628	73.6
Providence, RI	1967	25116	78.8	18280	49.2
Racine, WI	1975	32020	82.7	21269	71.0
Riverside, CA	1966	27758	78.3	23966	*** 65.9
Rochester, NY	1970				
Rochester, NY*	1976	45500	62.4	32100	34.1
Rockford, IL*	1973	43116	86.6	28791	73.2
Sacramento, CA	1966	52218	64.1	42284	41.7
Santa Monica, CA	1980	13118	76.6	9966	60.2
Seattle, WA	1978	83924	79.7	44312	50.1
St. Paul, MN	1973	49732	89.2	29446	66.9
Stamford, CT	1970	20886	75.0	11978	55.0
Syracuse, NY	1977	29402	74.8	20720	*** 63.2
Tacoma, WA*	1968	37049	85.7	28155	71.6
Toledo, OH	1980	61699	70.5	42655	59.5
Warren, OH	1969	14282	76.4	9031	*** 66.8
Waterloo, IA	1973	19498	86.8	12981	79.8
AVERAGE	1973	64708	69.7	48112	54.1
MINIMUM	1964	7724	21.4	5429	2.2
MAXIMUM	1982	1140359	91.6	931768	87.8
COUNT	43	40	40	40	40
NORTHERN CONTROL GROUP 1973**					
Albany, NY		10999	65.6	8050	53.2
Albequerque, NM		83781	58.3	74070	54.6
Camden, NJ		20290	26.7	18996	5.4
Charleston, WV (Kanawha)		52888	93.3	37927	91.1
E. Orange, NJ		11979	13.3	12141	0.3
Newark, NJ		78456	14.3	55062	8.8
Passaic, NJ (Public)		8524	41.1	8893	11.7
Paterson, NJ		26440	31.2	24358	11.6
Phoenix, AZ (el.#1,union combined)		39507	64.4	25101	43.5
Saginaw, MI		22635	58.0	15834	32.9
Trenton, NJ		17080	24.8	14074	12.7
Utica, NY		14475	85.8	9504	77.4

Appendix 5 (cont.)

		1970		1984	
	DESEG YEAR	ENROLL.	% WHITE	ENROLL.	% WHITE
Washington, DC		145330	4.5	82596	3.8
Yonkers, NY		30632	81.2	20309	57.2
Youngstown, OH		25097	52.5	16749 ***	41.7
AVERAGE		39208	47.7	28244	33.7
MINIMUM		8524	4.5	8050	0.3
MAXIMUM		145330	93.3	82596	91.1
COUNT		15	15	15	15

* Comprehensive Magnet Voluntary

** Average desegregation year of the other school districts.

*** 1982 data; no OCR 1984 data. In some districts we had 1984 enrollment data, although the district was not sampled by OCR in '84.

**** Wilmington preimplementation; New Castle Co. 1978 implementation; Red Clay Consolidated 1984 (one of four districts - others are Christina, Colonial, Brandywine - created from New Castle County District in 1980).

+ 1983 data

Appendix 6

Level of Interracial Exposure (Smw)[a]

	DESEG YEAR	PREIMPLEM.	IMPLEMENTATION YEAR	1984	
NORTHERN COURT/ HEW ORDERED					
Baltimore, MD (City)	1974	9.3	10.7	10.7	
Boston, MA (1975 imp. data)	1974	23.8	39.7	23.7	
Buffalo, NY*	1976	26.1	38.8	42.7	
Chicago, IL*	1982	9.3	9.9	8.6	
Cleveland, OH	1979	9.4	26.8	24.7	
Columbus, OH	1979	38.2	58.1	52.9	
Dayton, OH	1976	21.3	44.6	37.2	
Denver, CO	1974	39.8	45.7	35.4	
Detroit, MI	1975	11.9	13.5	8.1	
Erie, PA	1975	72.6	72.0	69.8	***
Evansville, IN	1972	59.2	87.0	82.4	
Flint, MI*	1978	24.9	26.1	23.1	
Indianapolis, IN	1973	26.3	38.4	50.2	
Kansas City, KS	1980	38.9	39.2	38.4	
Lansing,MI	1972	70.1	71.5	60.3	***
Las Vegas, NV (Clark)	1972			66.7	
Los Angeles, CA*	1981	16.9	15.3	13.8	
Los Angeles,CA (to '80)	1978	18.9	19.2	16.9	***
Milwaukee, WI*	1976	23.9	39.1	33.4	
Minneapolis, MN	1973	63.4	70.9	59.1	
Oklahoma City, OK (dism. '85)	1972	30.3	62.8	46.1	
Omaha, NE	1976	42.7	65.2	60.9	
Pasadena, CA	1970	36.9	50.3	23.6	
Philadelphia, PA*	1978	10.2	13.0	14.2	
Pittsburgh, PA	1980	30.4	35.7	36.2	
Pontiac, MI	1971	33.9	54.8	38.4	
San Bernardino, CA*	1978	47.4	48.2	43.4	
San Diego, CA*	1977	43.9	44.7	40.1	
San Francisco, CA	1971	29.1	29.4	15.0	
South Bend, IN	1981	51.7	66.9	64.7	
Springfield, IL	1976	61.0	77.9		
Springfield, MA	1974	46.2	54.4	38.9	
St. Louis, MO	1980	8.6	12.9	14.2	
Stockton, CA	1975	40.3	37.1	26.9	
Tucson, AZ	1978	38.6	42.5	41.8	
Tulsa, OK (dism. '85)	1971	36.9	46.8	47.3	
Waterbury, CT	1973	54.3	55.8	49.8	
Waukegan, IL	1968		40.4	44.6	***
Wichita, KS	1971	57.7	77.4	66.9	
Wilmington, DE ****	1978	9.0	72.2	64.0	
AVERAGE	1975	34.6	45.0	39.4	
MINIMUM	1968	8.6	9.9	8.1	
MAXIMUM	1982	72.6	87.0	82.4	
COUNT	40	38	39	39	

Appendix 6 (cont.)

	DESEG YEAR	PREIMPLEM.	IMPLEMENTATION YEAR	1984	
SOUTHERN COURT/ HEW ORDERED (H)					
Amarillo, TX (H)	1972	56.8	71.6	59.7	***
Atlanta, GA	1973	8.6	8.9	5.2	
Austin, TX	1980	39.3	45.3	44.5	
Baton Rouge, LA (East B. R.)	1981	25.7	40.6	38.4	
Birmingham, AL	1970	7.2	15.7	10.7	
Charlotte, NC (Mecklenburg)	1970	29.7	65.7	55.3	
Dallas, TX	1971	14.0	20.7	16.5	
Fort Worth, TX	1971	22.9	29.1	27.6	
Houston*	1975	17.0	16.8	13.6	
Houston, TX (to '74)	1970	16.0	18.4	17.0	***
Jacksonville, FL (Duval)	1970	16.2	35.3	46.8	
Lexington, KY (Fayette)	1972	48.4	74.5	69.0	
Louisville, KY (Jefferson)	1975	24.6	68.5	65.4	
Lubbock, TX	1978	20.5	32.2	36.5	
Memphis, TN	1973	8.9	20.9	13.8	
Miami, FL (Dade)	1970	27.5	31.2	19.1	
Mobile, AL (County)	1970	19.2	33.4	30.1	
Montgomery, AL (County)	1970	16.6	29.7	30.7	
Nashville, TN (Davidson)	1971	22.4	61.7	49.9	
New Orleans, LA (Orleans)	1974	9.8	9.4	6.4	
Port Arthur, TX*	1981	20.8	23.9	25.8	
Shreveport, LA (Caddo)	1970	9.9	22.5	29.2	
St. Petersburg, FL (Pineallas)	1970	30.1	77.4	75.9	***
Tampa, FL (Hillsborough)	1971	37.6	70.9	65.8	
Tyler, TX (H)	1970	17.9	53.9	44.6	***
Waco, TX	1971	28.9	35.8	39.5	***
AVERAGE	1973	22.9	39.0	36.0	
MINIMUM	1970	7.2	8.9	5.2	
MAXIMUM	1981	56.8	77.4	75.9	
COUNT	26	26	26	26	
NORTHERN BOARD ORDERED					
Akron, OH	1977	35.6	36.7	43.7	
Ann Arbor, MI	1965		80.1		
Berkeley, CA	1968		45.6	41.4	
Bridgeport, CT	1980	24.1	19.2	16.9	
Cambridge, MA (to '81)	1980	59.9	60.4	60.7	***
Cambridge, MA*	1982	60.7	58.5	55.3	
Cincinatti, OH*	1970	25.5	24.6	29.0	
Colorado Spgs, CO	1971	62.9	66.7	75.0	
Des Moines, IA	1977	73.9	78.9	76.4	
E. St. Louis, IL	1967		10.7	1.2	
Fort Wayne, IN	1971	39.2	51.9	57.3	
Gary, IN	1967		9.4	3.1	
Grand Rapids, MI	1968		32.6	44.0	***
Hamilton, OH	1980	55.8			

Appendix 6 (cont.)

	DESEG YEAR	PREIMPLEM.	IMPLEMENTATION YEAR	1984
NORTH BOARD ORDERED				
Hartford, CT	1981	10.9	9.6	8.6
Jersey City, NJ	1976	17.5	15.3	12.7
Kansas City, MO	1977	11.8	20.4	19.3
Lima, OH (1984*)	1976	50.8	52.2	53.5 ***
Montclair (to '76)	1971	49.2	53.4	55.3
Montclair, NJ*	1977	55.3	55.1	51.4 ***
Montgomery Co, MD	1976	78.6	77.3	63.4
Muncie, IN	1972	59.9	63.9	75.3
New Haven, CT	1966		28.2	14.2
New York, NY	1964		21.8	13.0
Niagara Falls, NY	1970	75.2	76.1	66.6 ***
Peoria, IL	1968		52.4	
Portland, OR*	1970	62.5	63.8	61.9
Providence, RI	1967		66.9	42.7
Racine, WI	1975	61.8	76.3	69.2
Riverside, CA	1966		76.6	63.7 ***
Rochester, NY (to '75)	1970	41.4	42.6	33.3 ***
Rochester, NY*	1976	33.3	31.2	28.2
Rockford, IL*	1973	52.9	56.7	63.4
Sacramento, CA	1966		57.7	36.3
Santa Monica, CA	1980	59.3		53.6
Seattle, WA	1978	49.1	52.0	47.8
St. Paul, MN	1973	66.2	67.0	61.5
Stamford, CT	1970	50.2	59.4	54.2
Syracuse, NY	1977	49.0	58.9	59.3 ***
Tacoma, WA*	1968	57.1	73.9	67.7
Toledo, OH	1980	36.0	40.1	39.9
Warren, OH	1969	48.6	50.6	57.7 ***
Waterloo, IA	1973	61.0	68.9	69.8 ***
AVERAGE	1973	49.2	49.8	46.2
MINIMUM	1964	10.9	9.4	1.2 ***
MAXIMUM	1982	78.6	80.1	76.4 ***
COUNT	43	32	41	40
NORTHERN CONTROL GROUP 1973**				
Albany, NY		39.2		42.7
Albequerque, NM		40.4	39.4	41.2
Camden, NJ		13.2	11.4	3.9
Charleston, WV (Kanawha)		78.4	77.1	77.8
E. Orange, NJ		6.2	2.9	0.3
Newark, NJ		6.9	6.1	4.5
Passaic, NJ (Public)		26.3	22.4	10.8
Paterson, NJ		19.6	16.0	8.4
Phoenix, AZ (El.#1,Union aver.)		32.3	32.1	27.1
Saginaw, MI		21.8	17.7	16.8
Trenton, NJ		14.0	12.1	7.5
Utica, NY		69.3	70.7	

Appendix 6 (cont.)

	DESEG YEAR	PREIMPLEM.	IMPLEMENTATION YEAR	1984
NORTHERN CONTROL GROUP 1973** (cont.)	1973**			
Washington, DC		2.1	1.8	2.2
Yonkers, NY		52.0	46.6	33.8
Youngstown, OH		23.0	21.6	22.0 ***
AVERAGE		29.6	27.0	21.4
MINIMUM		2.1	1.8	0.3
MAXIMUM		78.4	77.1	77.8
COUNT	15	15	14	14

[a] The Office for Civil Rights conducted annual surveys from 1968 to 1974, and thereafter only in even years. Therefore, districts which desegregated from 1975 through 1984 will have implementation year data only if it is an even year. If it is an odd year, data will be for the first even year after the implementation year. The same rules apply to data for the preimplementation year. The exception to these rules are the 20 district sub-sample and Cambridge and Los Angeles, for which we have data for every year from 1967 through 1985.

* Comprehensive Magnet Voluntary

** Average desegregation year of the other school districts.

*** 1982 data; no OCR 1984 data. Districts with (to "yr.") have data in 1984 column for the year in parentheses. These are districts which have dismantled a mandatory plan and replaced it with a voluntary plan. They are counted as two different districts with different time periods here.

**** Wilmington preimplementation; New Castle Co. 1978 implementation; Red Clay Consolidated 1984 (one of four districts - others are Christina, Colonial, Brandywine - created from the New Castle County School District in 1980).

Appendix 7

Level of Racial Imbalance (Dm)^a

	DESEG YEAR	PRE-IMPLEM.	IMPL. YEAR	1984	
NORTHERN COURT/ HEW ORDERED					
Baltimore, MD (City)	1974	81.7	75.4	66.5	
Boston, MA ('75 imp. data)	1974	70.4	30.9	33.8	
Buffalo, NY*	1976	61.0	55.3	15.9	
Chicago, IL*	1982	75.0	71.3	69.6	
Cleveland, OH	1979	83.9	18.5	19.3	
Columbus, OH	1979	55.5	12.4	13.6	
Dayton, OH	1976	69.2	22.1	19.9	
Denver, CO	1974	46.0	32.9	23.3	
Detroit, MI	1975	73.0	61.6	60.3	
Erie, PA	1975	34.9	22.3	17.2	***
Evansville, IN	1972	55.0	26.6	24.2	
Flint, MI*	1978	56.7	56.3	53.0	
Indianapolis, IN	1973	67.1	52.4	19.1	
Kansas City, KS	1980	38.0	32.6	29.8	
Lansing,MI	1972	27.7	22.4	16.3	***
Las Vegas, NV (Clark)	1972	35.4	21.3	27.5	
Los Angeles, CA*	1981	57.3	60.7	60.5	
Los Angeles,CA (to '80)	1978	62.9	58.7	57.3	***
Milwaukee, WI*	1976	71.1	51.3	31.5	
Minneapolis, MN	1973	50.6	47.4	18.2	
Oklahoma City, OK (dism. '85)	1972	66.7	26.8	22.4	
Omaha, NE	1976	59.9	26.6	28.6	
Pasadena, CA	1970	50.3	11.6	15.2	
Philadelphia, PA*	1978	78.5	76.9	68.2	
Pittsburgh, PA	1980	55.1	40.6	36.9	
Pontiac, MI	1971	58.7	15.0	15.1	
San Bernardino, CA*	1978	33.6	28.9	20.5	
San Diego, CA*	1977	48.1	45.4	34.3	
San Francisco, CA	1971	41.1	24.5	33.1	
South Bend, IN	1981	48.6	17.3	17.6	
Springfield, IL	1976	51.9			
Springfield, MA	1974	45.2	27.5	32.2	
St. Louis, MO	1980	81.9	70.3	65.6	
Stockton, CA	1975	46.3	42.0	22.7	
Tucson, AZ	1978	53.9	52.4	46.7	
Tulsa, OK (dismantled '85)	1971	67.0	60.7	45.0	
Waterbury, CT	1973	43.3	42.1	22.3	
Waukegan, IL	1968	77.9	56.7	22.0	***
Wichita, KS	1971	43.7	18.6	17.9	
Wilmington, DE ****	1978	45.8	12.2	27.5	
AVERAGE	1975	56.7	39.2	32.6	AVG
MINIMUM	1968	27.7	11.6	13.6	
MAXIMUM	1982	83.9	76.9	69.6	
COUNT	40	40	39	39	

Appendix 7 (cont.)

	DESEG YEAR	PRE-IMPLEM.	IMPL. YEAR	1984	
SOUTHERN COURT/ HEW ORDERED (H)					
Amarillo, TX (H)	1972	57.1	35.4	41.3	***
Atlanta, GA	1973	80.2	75.5	75.8	
Austin, TX	1980	45.2	24.5	26.9	
Baton Rouge, LA (East B. R.)	1981	66.4	32.2	31.5	
Birmingham, AL	1970	90.1	75.6	74.1	
Charlotte, NC (Mecklenburg)	1970	67.3	16.6	18.8	
Dallas, TX	1971	83.6	73.2	54.3	
Fort Worth, TX	1971	73.9	65.4	51.4	
Houston*	1975	70.5	69.6	57.4	
Houston, TX (to '74)	1970	79.1	74.9	70.5	***
Jacksonville, FL (Duval)	1970	81.8	73.4	38.7	
Lexington, KY (Fayette)	1972	58.5	29.7	29.8	
Louisville, KY (Jefferson)	1975	78.2	27.4	19.0	
Lubbock, TX	1978	76.9	61.8	48.8	
Memphis, TN	1973	85.5	52.1	67.7	
Miami, FL (Dade)	1970	64.5	56.8	52.0	
Mobile, AL (County)	1970	75.7	69.6	58.4	
Montgomery, AL (County)	1970	80.3	60.5	47.7	
Nashville, TN (Davidson)	1971	76.7	36.2	29.0	
New Orleans, LA (Orleans)	1974	74.9	75.2	67.8	
Port Arthur, TX*	1981	60.3	50.9	43.3	
Shreveport, LA (Caddo)	1970	87.8	68.7	50.6	
St. Petersburg, FL (Pineallas)	1970	72.4	64.9	28.0	***
Tampa, FL (Hillsborough)	1971	61.3	18.7	25.9	
Tyler, TX (H)	1970	80.0	36.2	47.1	***
Waco, TX	1971	69.3	56.2	17.4	***
AVERAGE	1973	73.0	53.1	45.1	
MINIMUM	1970	45.2	16.6	17.4	
MAXIMUM	1981	90.1	75.6	75.8	
COUNT	26	26	26	26	
NORTHERN BOARD ORDERED					
Akron, OH	1977	62.7	58.6	42.9	
Ann Arbor, MI	1965	71.8	49.9		
Berkeley, CA	1968	26.0	8.8	13.7	
Bridgeport, CT	1980	46.4	40.6	42.2	
Cambridge, MA (to '81)	1980	26.0	21.3	13.7	***
Cambridge, MA*	1982	13.7	10.7	5.5	
Cincinatti, OH*	1970	64.8	66.4	45.6	
Colorado Springs, CO	1971	43.6	38.9	25.2	
Des Moines, IA	1977	39.4	34.1	32.5	
E. St. Louis, IL	1967		77.1	78.5	
Fort Wayne, IN	1971	71.4	51.4	36.8	
Gary, IN	1967		80.9	61.3	
Grand Rapids, MI	1968	80.0	65.8	35.8	***
Hamilton, OH	1980	64.2	46.6		

Appendix 7 (cont.)

	DESEG YEAR	PRE-IMPLEM.	IMPL. YEAR	1984		
NORTHERN BOARD ORDERED						
Hartford, CT	1981	59.3	59.7	59.0		
Jersey City, NJ	1976	62.5	61.1	51.5		
Kansas City, MO	1977	75.8	57.5	52.3		
Lima, OH (mag-vol. 1984)	1976	40.7	37.9	30.2	***	
Montclair (to '76)	1971	30.9	24.4	12.3	***	
Montclair, NJ*	1977	12.3	8.0	3.4		
Montgomery Co., MD	1976	30.6	25.3	28.1		
Muncie, IN	1972	55.1	49.6	33.3		
New Haven, CT	1966	59.3	52.4	55.5		
New York, NY	1964		57.0	67.5		
Niagara Falls, NY	1970	26.5	23.1	26.7	***	
Peoria, IL	1968	72.1	60.6			
Portland, OR*	1970	50.5	51.3	36.4		
Providence, RI	1967		37.4	29.2		
Racine, WI	1975	37.9	17.3	13.3		
Riverside, CA	1966	58.1	21.8	15.0	***	
Rochester, NY (to '75)	1970	51.7	50.9	50.8	***	
Rochester, NY*	1976	50.8	50.3	35.7		
Rockford, IL*	1973	63.6	57.5	33.1		
Sacramento, CA	1966	52.5	30.2	28.5		
Santa Monica, CA	1980	31.6	30.1	27.0		
Seattle, WA	1978	53.1	33.9	16.2		
St. Paul, MN	1973	49.7	48.2	25.5		
Stamford, CT	1970	50.0	36.6	9.3		
Syracuse, NY	1977	33.7	22.4	20.2	***	
Tacoma, WA*	1968	54.3	38.2	21.3		
Toledo, OH	1980	55.7	48.9	46.9		
Warren, OH	1969	49.5	47.4	27.5	***	
Waterloo, IA	1973	59.7	52.3	37.7	***	
AVERAGE	1973	49.7	42.8	33.2		0.0
MINIMUM	1964	12.3	8.0	3.4		0.0
MAXIMUM	1982	80.0	80.9	78.5		0.0
COUNT	43	39.0	43.0	40.0		10.0
NORTHERN CONTROL GROUP 1973**						
Albany, NY		51.5	47.7	34.7		
Albequerque, NM		49.1	48.6	44.3		
Camden, NJ		65.8	66.9	60.0		
Charleston, WV (Kanawha)		55.5	55.8	49.6		
E. Orange, NJ		52.5	46.6	38.2		
Newark, NJ		73.0	72.8	80.4		
Passaic, NJ (Public)		46.7	46.4	29.4		
Paterson, NJ		48.6	49.9	59.2		
Phoenix, AZ (El.#1,Union aver.)		60.2	59.5	45.5		
Saginaw, MI		69.0	76.1	71.9		
Trenton, NJ		55.2	55.9	62.2		
Utica, NY		40.8	39.2			

Appendix 7 (cont.)

NORTHERN CONTROL GROUP 1973**	1973**	PRE-IMPLEM.	IMPL. YEAR	1984
Washington, DC		78.4	79.1	83.7
Yonkers, NY		56.4	59.6	53.7
Youngstown, OH		71.0	72.0	64.2 ***
AVERAGE		58.2	58.4	55.5
MINIMUM		40.8	39.2	29.4
MAXIMUM		78.4	79.1	83.7
COUNT		15	15	14

[a] The Office for Civil Rights conducted annual surveys from 1968 to 1974, and thereafter only in even years. Therefore, districts which desegregated from 1975 through 1984 will have implementation year data only if it is an even year. If it is an odd year, data will be for the first even year after the implementation year. The same rules apply to data for the preimplementation year. The exception to these rules are the 20 district sub-sample and Cambridge and Los Angeles, for which we have data for every year from 1967 through 1985.

* Comprehensive Magnet Voluntary

** Average desegregation year of the other school districts.

*** 1982 data; no OCR 1984 data. Districts with (to "yr.") have data in 1984 column for the year in parentheses. These are districts which have dismantled a mandatory plan and replaced it with a voluntary plan. They are counted as two different districts with different time periods here.

**** Wilmington preimplementation; New Castle Co. 1978 implementation; Red Clay Consolidated 1984 (one of four districts - others are Christina, Colonial, Brandywine - created from the New Castle County School District in 1980).

Appendix 8

Percentage of Students in Racially Balanced Schools[a]

		IMPLEMENTATION YEAR		1984	
	DESEG YEAR	15% STANDARD	20% STANDARD	15% STANDARD	20% STANDARD
NORTHERN COURT ORDERED					
Baltimore, MD (city)	1974	17.4	22.2	29.7	81.2
Boston, MA	1974	38.6	47.3	68.8	85.1
Buffalo, NY*	1976	18.1	42.5	88.9	99.6
Chicago, IL*	1982	32.5	67.6	78.2	82.1
Cleveland, OH	1979	89.5	96.5	91.3	97.4
Columbus, OH	1979	97.8	99.3	93.3	98.7
Dayton, OH	1976	72.5	88.1	84.1	91.0
Denver, CO	1974	56.5	71.3	72.9	88.8
Detroit, MI	1975	25.5	68.3	86.3	89.7
Erie, PA	1975	96.8	96.8	88.5	100.0 ***
Evansville, IN	1972	96.1	98.7	97.2	97.2
Flint, MI*	1978	21.9	32.6	33.4	36.6
Indianapolis, IN	1973	30.6	42.8	79.8	90.1
Kansas City, KS	1980	64.7	72.2	68.8	75.3
Lansing, MI	1972	86.3	92.5	88.0	97.9 ***
Las Vegas, NV (Clark)	1972			76.8	88.3
Los Angeles, CA*	1981	25.6	60.5	28.9	75.3
Los Angeles,CA (to '80)	1978	23.1	34.3	24.2	56.0 ***
Milwaukee, WI*	1976	27.4	51.1	56.3	69.9
Minneapolis, MN	1973	58.3	85.5	90.5	99.0
Oklahoma City, OK (dism. '85)	1972	74.3	88.8	67.7	87.0
Omaha, NE	1976	80.4	88.9	69.1	86.5
Pasadena, CA	1970	100.0	100.0	93.0	99.0
Philadelphia, PA*	1978	12.9	18.5	16.9	23.8
Pittsburgh, PA	1980	47.6	68.2	54.4	62.9
Pontiac, MI	1971	87.7	98.0	86.7	93.0
San Bernardardino, CA*	1978	57.1	77.7	82.7	91.7
San Diego, CA*	1977	44.9	63.4	46.1	65.2
San Francisco, CA	1971	70.4	86.3	90.2	97.9
South Bend, IN	1981	87.6	94.8	90.0	94.6
Springfield, IL	1976				
Springfield, MA	1974	66.2	83.7	57.8	67.1
St. Louis, MO	1980	9.8	30.6	10.3	21.1
Stockton, CA	1975	34.3	55.4	82.9	93.7
Tucson, AZ	1978	22.2	46.6	29.3	51.0
Tulsa, OK (dismant. '85)	1971	52.0	85.9	38.1	61.2
Waterbury, CT	1973	47.0	58.5	76.9	84.2
Waukegan, IL	1968	38.2	49.0	80.1	90.5 ***
Wichita, KS	1971	95.3	98.5	93.1	94.9
Wilmington, DE ****	1978	97.6	98.2	79.9	96.3
AVERAGE	1975	55.4	70.0	68.5	81.0
MIN.	1968	9.8	18.5	10.3	21.1
MAX.	1982	100.0	100.0	97.2	100.0
COUNT	40	38	38	39	39

Appendix 8 (cont.)

		IMPLEMENTATION YEAR		1984		
	DESEG YEAR	15% STANDARD	20% STANDARD	15% STANDARD	20% STANDARD	
SOUTHERN COURT/ HEW ORDERED (H)						
Amarillo, TX (H)	1972	81.4	95.2	43.8	73.9	***
Atlanta, GA	1973	16.9	72.8	85.8	86.3	
Austin, TX	1980	68.7	83.1	65.5	72.9	
Baton Rouge, LA (East B. R.)	1981	59.4	72.8	53.8	71.1	
Birmingham, AL	1970	11.5	14.9	11.3	73.9	
Charlotte, NC (Mecklenburg)	1970	90.5	92.8	83.3	93.0	
Dallas, TX	1971	9.2	14.6	37.3	47.9	
Fort Worth, TX	1971	14.6	25.2	20.2	31.6	
Houston*	1970	8.4	13.9	40.6	81.0	
Houston, TX (to '74)	1975	16.5	24.5	14.2	19.0	***
Jacksonville, FL (Duval)	1970	18.7	26.9	47.9	61.9	
Lexington, KY (Fayette)	1972	79.2	95.0	77.2	85.7	
Louisville, KY (Jefferson)	1975	90.9	93.3	89.4	94.5	
Lubbock, TX	1978	21.1	23.7	31.2	44.3	
Memphis, TN	1973	31.5	43.6	15.9	27.1	
Miami, FL (Dade)	1970	22.3	32.2	33.3	45.5	
Mobile, AL (County)	1970	12.2	17.2	22.5	31.8	
Montgomery, AL (County)	1970	11.4	34.6	28.3	48.8	
Nashville, TN (Davidson)	1971	56.6	67.4	57.5	75.1	
New Orleans, LA (Orleans)	1974	22.4	65.1	86.7	88.4	
Port Arthur, TX*	1981	12.6	27.8	33.7	49.2	
Shreveport, LA (Caddo)	1970	18.5	23.1	33.3	41.2	
St. Petersburg, FL (Pineallas)	1970	51.5	84.5	95.5	97.9	***
Tampa, FL (Hillsborough)	1971	95.2	97.5	82.1	92.9	
Tyler, TX (H)	1970	54.2	72.6	34.8	55.9	***
Waco, TX	1971	18.8	35.0	77.1	97.0	***
AVERAGE	1973	38.2	51.9	50.1	64.9	
MIN.	1970	8.4	13.9	11.3	19.0	
MAX.	1981	95.2	97.5	95.5	97.9	
COUNT	26	26	26	26	26	
NORTHERN BOARD ORDERED						
Ann Arbor, MI	1965					
Berkeley, CA	1968	99.0	99.0	97.6	97.6	
Bridgeport, CT	1980	49.7	76.6	70.7	93.4	
Cambridge, MA (to 1981)	1980	79.8	89.0	100.0	100.0	***
Cambridge, MA*	1982	100.0	100.0	100.0	100.0	
Cincinatti, OH*	1970	23.8	28.0	40.7	43.7	
Colorado Springs, CO	1971	83.9	90.7	92.9	97.1	
Des Moines, IA	1977	87.6	96.4	90.4	97.8	
E. St. Louis, IL	1967	5.7	21.1	95.4	98.5	
Fort Wayne, IN	1971	88.1	89.6	69.6	77.2	
Gary, IN	1967	10.0	24.3	98.4	100.0	
Grand Rapids, MI	1968	37.1	48.2	59.9	64.2	***
Hamilton, OH	1980	89.5	95.3			

Appendix 8 (cont.)

		IMPLEMENTATION YEAR		1984		
	DESEG YEAR	15% STANDARD	20% STANDARD	15% STANDARD	20% STANDARD	
NORTHERN BOARD ORDERED						
Hartford, CT	1981	79.3	89.4	89.4	89.4	
Jersey City, NJ	1976	22.3	45.0	57.9	90.1	
Kansas City, MO	1977	16.3	27.8	31.3	37.9	
Lima, OH	1976	47.9	71.1	67.2	84.7	***
Montgomery Co., MD	1976	93.2	94.6	78.0	86.4	
Montclair, NJ (to '76)	1969	82.1	82.1	84.7	100.0	***
Montclair, NJ*	1977	100.0	100.0	100.0	100.0	
Muncie, IN	1972	89.8	89.8	87.0	91.6	
New Haven, CT	1966	26.4	44.0	34.4	83.9	
New York, NY	1964			19.6	30.5	
Niagara Falls, NY	1970	90.2	97.3	70.0	92.1	***
Peoria, IL	1968	45.5	78.0			
Portland, OR*	1970	88.8	91.4	63.9	80.9	
Providence, RI	1967	51.8	86.8	52.2	74.5	
Racine, WI	1975	95.3	98.3	96.6	99.8	
Riverside, CA	1966	94.2	95.8	94.7	97.3	***
Rochester, N.Y. (to '75)	1976	28.2	45.9	28.2	45.9	***
Rochester, N.Y.*	1970	34.8	40.8	48.8	59.2	
Rockford, IL*	1973	54.8	85.6	65.2	79.8	
Sacramento, CA	1966	64.6	80.5	59.9	72.3	
Santa Monica, CA	1980	57.8	79.2	61.4	84.0	
Seattle, WA	1978	47.2	63.0	85.8	93.9	
St. Paul, MN	1973	87.7	90.5	68.2	92.0	
Stamford, CT	1970	73.6	76.5	98.5	98.9	
Syracuse, NY	1977	71.4	93.4	84.0	99.1	***
Tacoma, WA*	1968	88.0	95.6	87.5	93.1	
Toledo, OH	1980	39.9	55.8	43.1	53.7	
Warren, OH	1969	53.5	57.0	70.3	77.5	***
Waterloo, IA	1973	81.0	83.3	68.0	92.2	***
AVERAGE	1973	64.0	74.9	72.1	83.3	
MIN.	1964	5.7	21.1	19.6	30.5	
MAX.	1982	100.0	100.0	100.0	100.0	
COUNT	42	40	40	39	39	
NORTHERN CONTROL GROUP	1973**					
Albany, NY		47.4	55.5	49.5	56.9	
Albequerque, NM		22.4	45.6	31.0	45.9	
Camden, NJ		28.9	74.7	95.2	95.2	
Charleston, WV (Kanawha)		92.8	94.9	90.0	93.9	
E. Orange, NJ		100.0	100.0	100.0	100.0	
Newark, NJ		76.7	86.3	88.2	88.2	
Passaic, NJ (Public)		69.8	72.5	86.7	100.0	
Paterson, NJ		52.5	67.5	84.0	91.6	
Phoenix, AZ (El.#1, Union aver.)		21.9	46.3	55.2	70.8	
Saginaw, MI		13.3	18.4	0.0	8.9	
Trenton, NJ		49.8	81.9	86.2	86.2	
Utica, NY		80.5	90.7	78.1	87.2	***

Appendix B (cont.)

		IMPLEMENTATION YEAR		1984	
	DESEG YEAR	15% STANDARD	20% STANDARD	15% STANDARD	20% STANDARD
Washington, DC		94.6	96.8	92.8	94.7
Yonkers, NY		15.4	50.9	15.9	25.2 ***
Youngstown, OH		10.0	16.2	16.5	18.3 ***
AVERAGE		51.7	66.5	64.6	70.9
MIN.		10.0	16.2	0.0	8.9
MAX.		100.0	100.0	100.0	100.0
COUNT		15	15	15	15

[a] The Office for Civil Rights conducted annual surveys from 1968 to 1974, and thereafter only in even years. Therefore, districts which desegregated from 1975 through 1984 will have implementation year data only if it is an even year. If it is an odd year, data will be for the first even year after the implementation year. The same rules apply to data for the preimplementation year. The exception to these rules are the 20 district sub-sample and Cambridge and Los Angeles, for which we have data for every year from 1967 through 1985.

* Comprehensive Magnet Voluntary

** Average desegregation year of the other school districts.

*** 1982 data; no OCR 1984 data. Districts with (to "yr.") have data in 1984 column for the year in parentheses. These are districts which have dismantled a mandatory plan and replaced it with a voluntary plan. They are counted as two different districts with different time periods here.

**** Wilmington preimplementation; New Castle Co. 1978 implementation; Red Clay Consolidated 1984 (one of four districts - others are Christina, Colonial, Brandywine - created from the New Castle County School District in 1980).

Appendix 9

CATEGORICAL MEASURES OF DESEGREGATION, 1984^{a}

NORTHERN COURT/ HEW ORDERED	DESEG YEAR	% MINORITIES IN SCHOOLS >40% WHITE	% MINORITIES IN SCHOOLS >50% WHITE	% MINORITIES IN SCHOOLS >80% MIN.	% MINORITIES IN SCHOOLS >90% MIN.	
Baltimore, MD (City)	1974	7.2	4.3	81.1	66.7	
Boston, MA	1974	12.1	5.5	46.5	4.1	
Buffalo, NY*	1976	67.9	22.1	6.8	1.9	
Chicago, IL*	1982	6.7	2.9	81.8	76.8	
Cleveland, OH	1979	5.8	0.6	34	2.9	
Columbus, OH	1979	94	64.8	0	0	
Dayton, OH	1976	33.8	15.4	5.5	1.4	
Denver, CO	1974	32.7	12.7	4.2	0	
Detroit, MI	1975	3.7	1.3	86.5	68.6	
Erie, PA	1975					***
Evansville, IN	1972	100.0	100.0	0	0	
Flint, MI*	1978	26.3	15.6	50.8	43.7	
Indianapolis, IN	1973	82.1	48.0	0	0	
Kansas City, KS	1980	57.6	32.9	24	14.7	
Lansing,MI	1972					***
Las Vegas, NV (Clark)	1972	94.9	85.1	2	2	
Los Angeles, CA*	1981	14.4	5.1	72.6	63	
Los Angeles,CA (to '80)	1978					***
Milwaukee, WI*	1976	48.7	21.1	28	20.5	
Minneapolis, MN	1973	98.0	87.6	0.9	0.9	
Oklahoma City, OK (dism. '85)	1972	66.9	35.3	2.8	0	
Omaha, NE	1976	84.2	74.6	0	0	
Pasadena, CA	1970	1.5	0.7	25.5	5.9	
Philadelphia, PA*	1978	16.3	11.7	73	66.8	
Pittsburgh, PA	1980	52.3	29.6	22.5	21.6	
Pontiac, MI	1971	30.3	12.0	0	0	
San Bernardino, CA*	1978					***
San Diego, CA*	1977	47.2	37.0	20.2	7.8	
San Francisco, CA	1971	1.5	0.0	63.1	43.6	
South Bend, IN	1981	89.3	89.3	0	0	
Springfield, IL	1976					***
Springfield, MA	1974					
St. Louis, MO	1980	22.2	6.2	69.7	66.1	
Stockton, CA	1975	12.9	3.1	39.8	1.8	
Tucson, AZ	1971	59.6	48.2	24.4	22.1	
Tulsa, OK (dismantled '85)	1973	76.8	61.7	11.6	0	
Waterbury, CT	1968					***
Waukegan, IL	1971	94.4	89.0	2.1	0	
Wichita, KS	1978					***
Wilmington, DE ****	1975	93.7	75.4	0.0	0.0	
AVERAGE	1975	48.0	34.3	27.5	18.8	
MINIMUM	1968	1.5	0.0	0.0	0.0	
MAXIMUM	1982	100	100	87	77	
COUNT	40	32	32	32	32	

Appendix 9 (cont.)

	DESEG YEAR	% MINORITIES IN SCHOOLS >40% WHITE	% MINORITIES IN SCHOOLS >50% WHITE	% MINORITIES IN SCHOOLS >80% MIN.	% MINORITIES IN SCHOOLS >90% MIN.	
SOUTHERN COURT/ HEW ORDERED (H)						
Amarillo, TX (H)	1972					***
Atlanta, GA	1973	4.4	1.5	89.6	86.2	
Austin, TX	1980	63.7	47.2	7	1.9	
Baton Rouge, LA (East B. R.)	1981	51.2	25.3	14.7	12.4	
Birmingham, AL	1970	13.2	7.2	76.3	76.1	
Charlotte, NC (Mecklenburg)	1970	95.9	75.7	3	3	
Dallas, TX	1971	12.2	6.0	65.9	51	
Fort Worth, TX	1971	27.1	23.7	53.3	28.4	
Houston*	1975	10.4	5	72.8	61	
Houston, TX (to '74)	1970	10.4	5.0	72.8	61	
Jacksonville, FL (Duval)	1970	65.6	53.1	20.2	14.7	
Lexington, KY (Fayette)	1972	93.0	79.2	0	0	
Louisville, KY (Jefferson)	1975	95.6	86.7	0	0	
Lubbock, TX	1978	44.9	31.5	36.4	23.3	
Memphis, TN	1973	19.4	13.1	73.9	70.4	
Miami, FL (Dade)	1970	17.3	9.7	64.7	47.1	
Mobile, AL (County)	1970	34.5	34.5	49.6	42.2	
Montgomery, AL (County)	1970	44.6	36.7	42.9	39.8	
Nashville, TN (Davidson)	1971	78.5	61.0	0	0	
New Orleans, LA (Orleans)	1974	2.5	0.8	87.9	80.3	
Port Arthur, TX*	1981	35.8	16.3	53.7	17.4	
Shreveport, LA (Caddo)	1970	42.7	37.6	48.5	42.2	
St. Petersburg, FL (Pineallas)	1970					***
Tampa, FL (Hillsborough)	1971	93.9	90.0	3.3	0.4	
Tyler, TX (H)	1970					***
Waco, TX	1971					***
AVERAGE	1973	43.5	33.9	42.6	34.5	
MINIMUM	1970	2.5	0.8	0.0	0.0	
MAXIMUM	1981	95.9	90.0	89.6	86.2	
COUNT	26	22	22	22	22	
NORTHERN BOARD ORDERED						
Akron, OH	1977	56.6	53.5	32.5	22	
Ann Arbor, MI	1965					
Berkeley, CA	1968	66.7	31.9	3.4	0.0	
Bridgeport, CT	1980	4.6	0.2	58.1	43.2	
Cambridge, MA (to '81)	1980					
Cambridge, MA*	1982	100.0	94.8	0.0	0.0	
Cincinnati, OH*	1970	27.9	17.3	42.8	24.5	
Colorado Springs, CO	1971	89.8	89.8	0.0	0.0	
Des Moines, IA	1977	100.0	100.0	0.0	0.0	
E. St. Louis, IL	1967	0.3	0.3	99.7	97.1	
Fort Wayne, IN	1971	76.1	64.2	20.5	16.6	
Gary, IN	1967	0.0	0.0	100	89	
Grand Rapids, MI	1968					***
Hamilton, OH	1980					

Appendix 9 (cont.)

	DESEG YEAR	% MINORITIES IN SCHOOLS >40% WHITE	% MINORITIES IN SCHOOLS >50% WHITE	% MINORITIES IN SCHOOLS >80% MIN.	% MINORITIES IN SCHOOLS >90% MIN.	
Hartford, CT	1981	1.7	1.7	81.7	71.9	
Jersey City, NJ	1976	5.3	3.0	76.6	56.7	
Kansas City, MO	1977	21.9	12.5	59.6	48.5	
Lima, OH (1984)	1976					***
Montclair (to '76)	1971					
Montclair, NJ*	1977	100.0	71.4	0.0	0.0	
Montgomery Co., MD	1976	87.4	78.8	2.2	1.0	
Muncie, IN	1972	100.0	100.0	0.0	0.0	
New Haven, CT	1966	8.3	5.7	65.8	59.5	
New York, NY	1964	14.0	8.9	76.8	68.4	
Niagara Falls, NY	1970					***
Peoria, IL	1968					
Portland, OR*	1970	83.3	67.7	3.3	0.0	
Providence, RI	1967	60.5	27.8	13.0	5.4	
Racine, WI	1975	99.4	99.4	0.0	0.0	
Riverside, CA	1966					***
Rochester, NY to '75	1970					
Rochester, NY*	1976	21.8	13.7	36.3	21.4	
Rockford, IL*	1973	86.1	77.3	0.0	0.0	
Sacramento, CA	1966	45.6	15.4	18.5	0.5	
Santa Monica, CA	1980	85.4	60.3	9.4	0.0	
Seattle, WA	1978	82.2	43.1	1.9	0.8	
St. Paul, MN	1973	89.9	78.7	1.1	1.1	
Stamford, CT	1970	97.6	73.5	0.0	0.0	
Syracuse, NY	1977					***
Tacoma, WA*	1968	100.0	95.2	0.0	0.0	
Toledo, OH	1980	61.7	43.1	36.8	33.9	
Warren, OH	1969					***
Waterloo, IA	1973					***
AVERAGE	1973	59.1	47.6	27.1	22.1	
MINIMUM	1964	0.0	0.0	0.0	0.0	
MAXIMUM	1982	100.0	100.0	100.0	97.1	
COUNT	43	30	30	31	30	
NORTHERN CONTROL GROUP 1973**						
Albany		56.7	46.4	23.3	1.5	
Albequerque, NM		41.2	37.5	19.3	1.4	
Camden, NJ		0.7	0.7	97.6	92.6	
Charleston, WV (Kanawha)		100.0	100.0	0.0	0.0	
E. Orange, NJ		0.0	0.0	100.0	100.0	
Newark, NJ		4.2	3.5	92.4	90.7	
Passaic, NJ (Public)		0.0	0.0	89.5	38.3	
Paterson, NJ		3.9	3.9	86.5	75.0	
Phoenix, AZ (El.#1,Union aver.)		27.7	41.5	56.5	47.9	
Saginaw, MI		19.1	19.1	80.9	69.5	
Trenton, NJ		6.2	0.9	91.6	85.7	
Utica, NY						

Appendix 9 (cont.)

	DESEG YEAR	% MINORITIES IN SCHOOLS >40% WHITE	% MINORITIES IN SCHOOLS >50% WHITE	% MINORITIES IN SCHOOLS >80% MIN.	% MINORITIES IN SCHOOLS >90% MIN.
NORTHERN CONTROL GROUP	1973**				
Washington, DC		0.9	0.5	95.6	93.8
Yonkers, NY					
Youngstown, OH					
AVERAGE		21.7	21.2	69.4	58.0
MINIMUM		0.0	0.0	0.0	0.0
MAXIMUM		21.7	21.2	69.4	58.0
COUNT		12	12	12	12

[a] These data are from the Office for Civil Rights biennial enrollment survey which includes kindergarten. Since kindergarten is excluded from most desegregation plans, there may be small discrepancies between the assessment presented here and a court's evaluation.

* Comprehensive Magnet Voluntary

** Average desegregation year of the other school districts.

*** 1982 data; no OCR 1984 data.

**** Wilmington district preimplementation; New Castle Co. 1978 implementation; Red Clay Consolidated 1984 (one of four districts - others are Christina, Colonial, Brandywine - created from New Castle County School District in 1980).

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